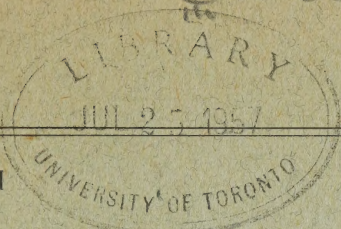


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Vol. 11

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DOMINION OF CANADA

DEPARTMENT OF TRADE AND COMMERCE

CENSUS AND STATISTICS OFFICE

Quarterly

(MONTHLY) BULLETIN

OF

AGRICULTURAL STATISTICS

January, 1918.

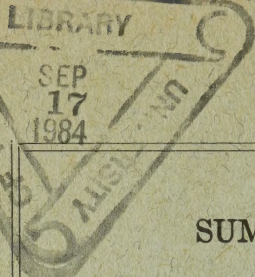
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1918



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EDITOR: ERNEST H. GODFREY, F.S.S. CENSUS AND STATISTICS OFFICE,
DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

FIELD CROPS OF CANADA.

Report for the Year ended December 31, 1917.

In this issue the Census and Statistics Office publishes the definitive report on the area, yield, quality and value of the field crops of Canada for the season of 1917. For the provinces of Quebec, Saskatchewan, Alberta and British Columbia, the agricultural statistics of 1917 were collected in co-operation with the Provincial Governments, and consequently for these four provinces the reports of the Dominion and Provincial statistical authorities record identical results. In estimating the average yields per acre of wheat, barley, oats and flax, reports were again collected from the postmasters of the three Prairie Provinces, and were included with the compilation of the returns from the regular corps of crop correspondents of the Census and Statistics Office.

THE SEASON OF 1917.

The year was notable for the backwardness of the spring and consequent lateness of seeding, which made it impossible for farmers to sow as much wheat as would otherwise have been put in and which therefore accounts for an expansion in the areas devoted to later-sown crops. Severe frosts in the Prairie Provinces at the end of May caused a serious set-back, and a long period of drought and excessive heat, broken only by rains just before harvest, caused the western grain yields to be below the average. On the other hand, the grading quality of the grain was excellent, and this, with the further rise in prices, offset considerably the low yields. In the Maritime Provinces, where the seeding was also late, early frosts during September did much damage. Quebec had a poor season from the same causes and from excessive rains and heat. In Ontario the general conditions were excellent, and the season was one of the best on record.

YIELD AND QUALITY OF GRAIN CROPS.

The total yield of wheat for Canada is returned as 233,742,850 bushels from 14,755,850 acres, as compared with 262,781,000 bushels from 15,369,709 acres in 1916. Of oats the total yield is 403,009,800 bushels from 13,313,400 acres, as compared with 410,211,000 bushels from 10,996,487 acres in 1916. The yield of barley is 55,057,750 bushels from 2,392,200 acres, as against 42,770,000 bushels from 1,802,996 acres in 1916. The average yields per acre of these crops are, in bushels, as follows, the corresponding figures of 1916 being placed within brackets: Wheat 15.75 (17.10); oats 30.25 (37.30);

barley 23 (23.72). The total yields in 1917 of the remaining crops are as follows: Rye 3,857,200 bushels; peas 3,026,340 bushels; beans 1,274,000 bushels; buckwheat 7,149,400 bushels; mixed grains 16,157,080 bushels; flaxseed 5,934,900 bushels; corn for husking 7,762,700 bushels.

The quality of the grain crops of 1917, as indicated by the average weight in lb. per measured bushel, is as follows: Fall wheat 59.37 lb., as compared with 59.52 lb. in 1916; spring wheat 59.48 lb. as against 56.51 lb.; all wheat 59.46 lb. as against 57.10 lb.; oats 33.55 lb. as against 33.86 lb.; barley 46.97 lb. as against 45.66 lb.; rye 53.44 lb. against 54.95 lb.; peas 59.81 lb. against 59.88 lb.; beans 59.70 lb. against 60 lb.; buckwheat 46.49 lb. against 46.35 lb.; mixed grains 44.41 lb. against 43.13 lb.; flaxseed 54.73 lb. against 54.99 lb. and corn for husking 56.18 lb. against 56.51 lb.

AVERAGE VALUES PER BUSHEL OF GRAIN CROPS.

The average values per bushel of grain crops for all Canada in 1917, according to the prices returned by the crop-reporting correspondents of the Census and Statistics Office, are higher than in any previous year. They are as follows: Fall wheat \$2.08 as compared with \$1.54 in 1916; spring wheat \$1.93 against \$1.29; all wheat \$1.94 against \$1.31; oats 69 cents against 51 cents; barley \$1.08 against 82 cents; rye \$1.62 against \$1.11; peas \$3.54 against \$2.22; beans \$7.45 against \$5.40; buckwheat \$1.46 against \$1.07; mixed grains \$1.16 against 88 cents; flax \$2.65 against \$2.04 and corn for husking \$1.84 against \$1.07.

ROOT AND FODDER CROPS.

The area under root and fodder crops consisting of potatoes, turnips, etc., hay and clover, alfalfa, fodder corn and sugar beets amounted to 9,590,668 acres, as compared with 8,843,496 acres in 1916, all crops excepting sugar beets sharing in the increase. The total value, at local prices, of these crops amounted for 1917 to \$269,104,100, as compared with \$246,761,200 in 1916. The total yield of hay and clover is estimated to be 13,684,700 tons from 8,225,034 acres, as compared with last year's high record of 14,527,000 tons from 7,821,257 acres, and it is higher than in any year previous to 1916. The yield per acre, 1.66 ton, comparing with 1.86 ton last year, is higher than in any year since 1910, when it was 1.82 ton. The average value per ton is \$10.33 as against \$11.60 last year. Potatoes yielded a total of 79,892,000 bushels, as compared with 63,297,000 bushels last year and 60,353,000 bushels in 1915; but the increase for 1917 is due to the larger area planted (656,958 acres as compared with 472,992 acres in 1916) and not to the yield per acre, which averaging only 121.61 bushels is the lowest on record, excepting the year 1910, when the average was 119.36 bushels. The average yield in 1916 was 133.82 bushels; in 1915 it was 124.24 bushels and in 1914, 180 bushels, the record year. The average value of the potato crop is \$1 per bushel as against 81 cents in 1916 and the

total value of the crop is \$80,804,400 as compared with \$50,982,300 in 1916. By provinces the potato yield was highest in Prince Edward Island and Nova Scotia, 175 bushels, the remaining provinces being in order of yield in bushels per acre as follows: British Columbia 166.55; Alberta 151.46; New Brunswick 149.80; Ontario 133.67; Saskatchewan 133; Manitoba 106; Quebec 80. The prices per bushel by provinces were as follows: Quebec \$1.38; New Brunswick \$1.13; Ontario \$1; Nova Scotia 92 cents; Saskatchewan 85 cents; Manitoba and Alberta, 76 cents; Prince Edward Island 75 cents and British Columbia 69 cents.

TOTAL VALUES OF FIELD CROPS.

The total farm values of the principal grain crops of 1917 are estimated to be as follows: Wheat \$453,038,600 as against \$344,096,400 in 1916; oats \$277,065,300 as against \$210,957,500; barley \$59,654,400 as against \$35,024,000; beans \$9,493,400 as against \$2,228,000; buckwheat \$10,443,400 as against \$6,375,000; mixed grains \$18,801,750 as against \$9,300,900; flaxseed \$15,737,000 as against \$16,889,900 and corn for husking \$14,307,200 as against \$6,747,000.

Adding the value of the root and fodder crops, the total value of the field crops of Canada is estimated at \$1,144,636,450, as compared with \$886,494,900 in 1916 and \$825,370,600 in 1915. The totals comprise grain crops \$875,532,350, compared with \$639,733,700 in 1916 and \$601,093,300 in 1915; potatoes and sugar beets \$81,598,200, compared with \$51,422,300 in 1916 and \$37,235,300 in 1915 and fodder crops \$187,505,900, compared with \$195,338,900 in 1916 and \$187,042,000 in 1915. The total value of \$1,144,636,450 for 1917 is the highest on record, and this is the first time that the value of the field crops of Canada has exceeded one billion dollars.

WHEAT, OATS, BARLEY AND FLAX IN THE PRAIRIE PROVINCES.

In the three Prairie Provinces of Manitoba, Saskatchewan and Alberta the production of wheat in 1917 is estimated at 211,953,100 bushels, as compared with 242,314,000 bushels in 1916; of oats at 254,877,200 bushels, as compared with 313,916,000 bushels; of barley at 40,384,100 bushels, compared with 33,419,000 bushels and of flaxseed at 5,835,900 bushels, compared with 8,212,500 bushels. The estimated wheat production of 1917 in Manitoba is 41,039,700 bushels from 2,448,860 acres, in Saskatchewan 117,921,300 bushels from 8,273,250 acres and in Alberta 52,992,100 bushels from 2,897,300 acres.

DESCRIPTION OF TABLES.

Table I gives for Canada and the provinces the area, yield and value of the principal field crops of 1917 as compared with 1915 and 1916, with quality also in the case of grain crops as indicated by the weight per measured bushel. Table II shows the acreage and yield of wheat, oats, barley and flaxseed in the three Prairie Provinces for the years

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1915, 1916 and 1917, and Table III shows for Canada and by provinces the total estimated areas and values of field crops for the six years 1912 to 1917. For 1917 the total area under field crops is placed at 42,602,288 acres, as compared with 38,930,333 acres in 1916 and 39,140,460 acres in 1915.

In view of the fact that the statistics of 1917 for Quebec, Saskatchewan, Alberta and British Columbia were compiled by new and improved methods in co-operation with the Provincial Governments, the results are not strictly comparable with those of 1916 and previous years. In many cases the areas of the crops of 1917 show considerable increases, and it is not possible to ascertain to what extent these may be due to actual expansion as compared with 1916. Most probably the larger part of the increase shown in each case is the result of greater accuracy in the method of collection.

Census and Statistics Office,
Ottawa, January 25, 1918.

ERNEST H. GODFREY,
Editor.

I. Area, Yield, Quality and Value of Principal Field Crops in Canada, 1915, 1916 and 1917.

Field Crops.	Area.	Yield per acre.	Total Yield.	Weight per measured bushel.	Average price per bushel.	Total Value.
	acres.	bush.	bush.	lb.	\$	\$
Canada—						
Fall wheat.....1915	1,030,581	28.45	29,320,600	59.71	0.90	27,149,700
1916	818,264	21.50	17,590,000	59.52	1.54	27,118,300
1917	725,300	21.50	15,533,450	59.37	2.08	32,336,900
Spring wheat.....1915	14,078,834	25.87	364,222,000	60.31	0.91	329,667,200
1916	14,551,445	16.85	245,191,000	56.51	1.29	316,978,100
1917	14,030,550	15.50	218,209,400	59.48	1.93	420,701,700
All wheat.....1915	15,109,415	26.05	393,542,600	60.19	0.91	356,816,900
1916	15,369,709	17.10	262,781,000	57.10	1.31	344,096,400
1917	14,755,850	15.75	233,742,850	59.46	1.94	453,038,600
Oats.....1915	11,555,681	40.24	464,954,400	36.61	0.36	171,009,100
1916	10,996,487	37.30	410,211,000	33.86	0.51	210,957,500
1917	13,313,400	30.25	403,009,800	33.55	0.69	277,065,300
Barley.....1915	1,718,432	31.51	54,017,100	48.26	0.52	27,985,800
1916	1,802,996	23.72	42,770,000	45.66	0.82	35,024,000
1917	2,392,200	23.00	55,057,750	46.97	1.08	59,654,400
Rye.....1915	121,677	20.43	2,486,200	56.32	0.77	1,921,900
1916	148,404	19.38	2,876,400	54.95	1.11	3,196,000
1917	211,880	18.25	3,857,200	53.44	1.62	6,267,200
Peas.....1915	196,065	17.67	3,464,250	60.74	1.65	5,724,100
1916	151,790	14.50	2,218,100	59.88	2.22	4,919,000
1917	198,881	15.25	3,026,340	59.81	3.54	10,724,100
Beans.....1915	43,310	16.70	723,400	59.61	3.05	2,206,800
1916	32,500	12.70	412,600	60.00	5.40	2,228,000
1917	92,457	13.75	1,274,000	59.70	7.45	9,493,400
Buckwheat.....1915	343,800	22.88	7,865,900	48.02	0.75	5,913,000
1916	341,500	17.50	5,976,000	46.35	1.07	6,375,000
1917	395,977	18.00	7,149,400	46.49	1.46	10,443,400

I. Area, Yield, Quality and Value of Principal Field Crops in Canada, 1915, 1916 and 1917—con.

Field Crops.	Area.	Yield per acre.	Total Yield.	Weight per measured bushel.	Average price per bushel.	Total Value.
Canada—con.	acres.	bush.	bush.	lb.	\$	\$
Mixed grains.....1915	467,001	37·51	17,517,600	44·98	0·57	10,062,300
1916	412,670	25·75	10,584,800	43·13	0·88	9,300,900
1917	497,236	32·50	16,157,080	44·41	1·16	18,801,750
Flax.....1915	463,359	13·19	6,114,000	55·28	1·51	9,210,400
1916	657,781	12·56	8,259,800	54·99	2·04	16,889,900
1917	919,500	6·50	5,934,900	54·73	2·65	15,737,000
Corn for husking..1915	253,300	56·72	14,368,000	56·32	0·71	10,243,000
1916	173,000	36·25	6,282,000	56·51	1·07	6,747,000
1917	234,339	33·00	7,762,700	56·18	1·84	14,307,200
Potatoes.....1915	485,777	124·24	60,353,000	—	0·60	36,459,800
1916	472,992	133·82	63,297,000	—	0·81	50,982,300
1917	656,958	121·50	79,892,000	—	1·01	80,804,400
Turnips, man-1915	156,691	384·05	60,175,000	—	0·24	14,588,700
golds, etc.	1916	141,839	264·24	—	0·39	14,329,000
1917	218,233	290·75	63,451,000	—	0·46	29,253,000
Hay and clover..1915	7,776,995	1·36	10,612,000	—	14·37	152,531,600
1916	7,821,257	1·86	14,527,000	—	11·60	168,547,900
1917	8,225,034	1·66	13,684,700	—	10·33	141,376,700
Fodder corn.....1915	332,469	10·17	3,382,770	—	4·91	16,612,600
1916	293,058	6·65	1,907,800	—	4·92	9,396,000
1917	366,518	7·34	2,690,370	—	5·14	13,834,900
Sugar beets.....1915	18,000	7·83	141,000	—	5·50	775,500
1916	15,000	4·75	71,000	—	6·20	440,000
1917	14,000	8·40	117,600	—	6·75	793,800
Alfalfa.....1915	98,488	2·65	260,970	—	12·68	3,309,100
1916	99,350	2·91	286,750	—	10·69	3,066,000
1917	109,825	2·39	262,400	—	11·59	3,041,300
Prince Edward Isl'd—		bush.	bush.		per bush.	
Spring wheat.....1915	34,400	19·00	653,600	59·05	1·08	705,800
1916	34,500	16·75	578,000	58·79	1·52	879,000
1917	36,000	14·50	522,000	57·63	2·09	1,091,000
Oats.....1915	196,000	34·86	6,832,500	36·70	0·45	3,074,600
1916	199,000	37·25	7,413,000	36·93	0·61	4,522,000
1917	201,000	32·25	6,482,300	34·80	0·80	5,185,800
Barley.....1915	3,700	28·88	106,800	48·83	0·71	75,800
1916	3,600	29·25	105,000	47·40	0·95	100,000
1917	3,500	28·50	99,750	46·45	1·22	121,700
Peas.....1915	70	15·75	1,100	61·67	2·33	2,500
1916	60	22·25	1,300	59·71	2·19	2,800
1917	60	14·00	840	60·60	2·86	2,400
Buckwheat.....1915	2,600	29·00	75,400	48·15	0·75	56,500
1916	2,500	27·25	68,000	49·10	1·00	68,000
1917	2,500	29·00	72,500	47·80	1·32	95,700
Mixed grains.....1915	8,000	38·65	309,200	43·00	0·55	170,000
1916	8,000	41·25	330,000	47·60	0·75	248,000
1917	7,800	38·25	298,400	42·61	0·98	292,400

I. Area, Yield, Quality and Value of Principal Field Crops in Canada, 1915, 1916 and 1917—con.

Field Crops.	Area.	Yield per acre.	Total Yield.	Weight per measured bushel.	Average price per bushel.	Total Value.	
	acres.	bush.	bush.	lb.	\$	\$	
P. E. Island—con.							
Potatoes.....	1915	31,000	114.78	3,558,000	—	0.46	1,637,000
	1916	31,000	206.00	6,386,000	—	0.52	3,321,000
	1917	35,000	175.00	6,125,000	—	0.75	4,594,000
Turnips, man- golds, etc.	1915	7,900	449.46	3,551,000	—	0.26	923,000
	1916	8,000	477.00	3,816,000	—	0.28	1,068,000
	1917	8,100	505.39	4,094,000	—	0.31	1,269,000
Hay and clover...	1915	198,000	1.77 tons.	351,000 tons.	—	12.18 per ton.	4,275,000
	1916	199,000	1.70	338,000	—	11.56	3,907,000
	1917	197,000	1.55	305,400	—	12.67	3,869,000
Fodder corn.....	1915	260	13.00	3,400	—	3.00	10,200
	1916	250	13.00	3,300	—	2.50	8,300
	1917	250	7.00	1,800	—	5.00	9,000
Nova Scotia—							
Spring wheat....	1915	13,300	18.57 bush.	247,000 bush.	59.26	1.21 bush.	298,700
	1916	13,400	19.50	261,000	59.95	1.70	444,000
	1917	16,200	15.75	255,150	57.93	2.34	597,000
Oats.....	1915	112,000	31.14	3,487,700	34.18	0.59	2,057,700
	1916	116,000	34.75	4,031,000	34.19	0.71	2,862,000
	1917	123,000	29.25	3,597,800	32.28	0.92	3,310,000
Barley.....	1915	4,900	26.20	128,400	48.39	0.80	102,700
	1916	4,700	26.25	123,000	48.58	0.99	122,000
	1917	4,800	24.75	118,800	46.54	1.34	159,200
Rye.....	1915	300	15.00	4,500	56.00	1.08	4,900
	1916	320	17.00	5,400	56.00	1.25	6,800
	1917	300	15.00	4,500	54.50	1.67	7,500
Peas.....	1915	190	18.66	3,550	59.00	2.01	7,100
	1916	180	17.75	3,200	59.80	2.73	8,700
	1917	170	14.25	2,400	58.50	4.44	10,700
Beans.....	1915	840	17.50	14,700	59.83	3.87	56,800
	1916	850	16.25	13,800	60.00	5.62	78,000
	1917	1,000	17.75	17,750	59.00	7.95	141,100
Buckwheat.....	1915	10,200	21.72	221,500	47.45	0.72	159,500
	1916	10,000	24.50	245,000	46.97	0.84	206,000
	1917	10,900	21.00	228,900	46.56	1.14	261,000
Mixed grains.....	1915	4,100	34.16	140,000	43.05	0.71	99,400
	1916	4,100	34.00	139,000	44.07	0.92	128,000
	1917	4,000	24.00	96,000	39.91	1.24	119,000
Potatoes.....	1915	33,700	141.23	4,759,000	—	0.58	2,760,000
	1916	34,500	201.00	6,935,000	—	0.69	4,785,000
	1917	41,000	174.94	7,173,000	—	0.92	6,599,000
Turnips, man- golds, etc.	1915	9,200	390.02	3,589,000	—	0.34	1,223,000
	1916	9,000	404.00	3,636,000	—	0.42	1,527,000
	1917	9,100	350.93 tons.	3,193,000 tons.	—	0.47 per ton.	1,501,000
Hay and clover...	1915	538,000	1.78	958,000	—	13.33	12,770,000
	1916	553,000	1.80	995,000	—	12.25	12,189,000
	1917	542,000	1.65	894,300	—	11.83	10,580,000

I. Area, Yield, Quality and Value of Principal Field Crops in Canada, 1915, 1916 and 1917—con.

Field Crops.	Area.	Yield per acre.	Total Yield.	Weight per measured bushel.	Average price per ton.	Total Value.
	acres.	tons.	tons.	lb.	\$	\$
Nova Scotia—con.						
Fodder corn.....1915	500	4.64	2,300	—	7.00	16,000
1916	500	8.75	4,400	—	2.50	11,000
1917	480	9.20	4,400	—	6.00	26,400
Alfalfa.....1915	30	2.30	70	—	13.00	900
1916	30	5.00	150	—	15.00	2,300
1917	30	3.50	100	—	15.00	1,500
New Brunswick—		bush.	bush.		per bush.	
Spring wheat.....1915	14,000	19.09	267,000	59.69	1.26	335,000
1916	14,000	17.25	242,000	59.20	1.72	416,000
1917	16,000	12.00	192,000	58.43	2.25	432,000
Oats.....1915	201,000	27.66	5,559,600	36.33	0.55	3,058,000
1916	198,000	30.50	6,039,000	35.49	0.68	4,107,000
1917	190,000	22.50	4,275,000	33.33	0.94	4,018,500
Barley.....1915	2,100	22.96	48,000	48.85	0.85	40,800
1916	1,900	23.75	45,000	46.70	1.00	45,000
1917	1,800	22.00	39,600	42.84	1.36	53,900
Peas.....1915	420	17.08	6,700	60.27	2.52	16,900
1916	400	16.50	6,600	60.21	2.46	16,200
1917	400	15.00	6,000	60.45	2.83	17,000
Beans.....1915	270	21.37	5,700	60.71	4.03	23,000
1916	250	15.25	3,800	60.54	6.11	23,000
1917	300	19.50	5,850	59.00	8.75	51,200
Buckwheat.....1915	58,000	22.68	1,315,000	47.51	0.73	960,000
1916	53,000	22.75	1,206,000	46.51	0.84	1,013,000
1917	57,000	19.50	1,111,500	45.48	1.13	1,256,000
Mixed grains.....1915	900	31.50	28,400	45.80	0.71	20,000
1916	870	34.25	30,000	43.25	0.78	23,000
1917	840	19.50	16,380	43.29	1.10	18,000
Potatoes.....1915	40,000	144.31	5,772,000	—	0.64	3,694,000
1916	39,000	192.00	7,488,000	—	0.84	6,290,000
1917	46,000	149.80	6,891,000	—	1.13	7,787,000
Turnips, man-1915	8,000	329.10	2,633,000	—	0.33	869,000
golds, etc. 1916	7,700	411.00	3,165,000	—	0.45	1,424,000
1917	7,700	300.54	2,314,000	—	0.61	1,412,000
Hay and clover...1915	569,000	1.39	791,000	—	14.00	11,074,000
1916	574,000	1.48	850,000	—	11.27	9,563,000
1917	568,000	1.60	909,000	—	10.29	9,354,000
Fodder corn.....1915	110	7.00	770	—	2.50	1,900
1916	100	10.00	1,000	—	4.00	4,000
1917	85	9.00	770	—	6.00	4,600
Quebec—		bush.	bush.		per bush.	
Spring wheat.....1915	71,000	19.88	1,411,000	59.62	1.34	1,891,000
1916	64,000	15.00	960,000	57.71	1.86	1,786,000
1917	277,400	14.00	3,883,600	57.94	2.46	9,553,700

I. Area, Yield, Quality and Value of Principal Field Crops in Canada, 1915, 1916 and 1917.—con.

Field Crops.	Area.	Yield per acre.	Total Yield.	Weight per measured bushel.	Average price per bushel.	Total Value.
	acres.	bush.	bush.	lb.	\$	\$
Quebec—con.						
Oats.....1915	1,400,000	30.13	42,182,000	36.92	0.55	23,200,000
1916	1,073,000	22.75	24,411,000	33.55	0.77	18,796,000
1917	1,492,700	21.75	32,466,200	34.34	0.92	29,868,900
Barley.....1915	85,000	26.53	2,255,000	43.79	0.86	1,939,000
1916	72,800	20.00	1,456,000	46.67	1.15	1,674,000
1917	165,600	18.50	3,063,600	48.14	1.53	4,840,500
Rye.....1915	8,700	16.71	145,000	55.90	1.12	162,000
1916	8,300	14.25	118,000	53.97	1.40	165,000
1917	22,450	16.75	376,000	53.36	1.78	669,300
Peas.....1915	24,400	16.56	404,000	61.14	2.47	998,000
1916	21,600	14.00	302,000	59.95	3.22	972,000
1917	66,457	12.00	797,500	59.75	4.51	3,596,700
Beans.....1915	4,700	21.89	103,000	59.38	3.17	327,000
1916	4,400	17.75	78,000	60.18	5.56	434,000
1917	55,157	15.00	827,400	59.90	7.77	6,428,900
Buckwheat.....1915	104,000	24.69	2,568,000	48.17	0.84	2,157,000
1916	101,000	19.00	1,919,000	46.35	1.21	2,322,000
1917	163,577	16.50	2,699,000	46.55	1.73	4,669,300
Mixed grains.....1915	101,000	29.67	2,997,000	45.44	0.73	2,188,000
1916	91,000	20.25	1,843,000	44.04	0.99	1,825,000
1917	122,819	21.25	2,609,900	44.50	1.33	3,471,200
Flax.....1915	600	11.89	7,000	54.16	2.18	15,000
1916	500	10.50	5,300	54.50	2.50	13,300
1917	5,700	8.25	47,000	53.21	3.37	158,400
Corn for husking..1915	16,300	31.17	508,000	56.85	1.12	569,000
1916	13,000	24.75	322,000	56.18	1.52	489,000
1917	74,339	24.25	1,802,700	56.89	2.25	4,056,000
Potatoes.....1915	117,000	149.66	17,510,000	.	0.55	9,631,000
1916	112,000	131.00	14,672,000	.	0.97	14,232,000
1917	226,917	80.00	18,158,000	.	1.38	25,058,000
Turnips, man- golds, etc. 1915	10,200	308.25	3,144,000	—	0.36	1,132,000
1916	10,000	265.00	2,650,000	—	0.48	1,272,000
1917	70,192	224.51	15,759,000	—	0.59	9,298,000
Hay and clover...1915	2,922,000	1.26	3,682,000	—	15.89	58,507,000
1916	2,985,000	1.75	5,224,000	—	11.00	57,464,000
1917	2,961,983	1.71	5,065,000	—	9.58	48,523,000
Fodder corn.....1915	34,000	8.61	293,000	—	6.39	1,872,000
1916	31,000	8.00	248,000	—	5.75	1,426,000
1917	69,030	8.50	586,800	—	5.00	2,934,000
Alfalfa.....1915	2,860	2.84	8,100	—	11.78	95,000
1916	2,600	2.65	7,000	—	9.50	67,000
1917	3,818	2.26	8,600	—	8.37	72,000
Ontario—					per bush.	
Fall wheat.....1915	972,000	bush.	bush.	59.41	0.93	25,618,000
1916	774,800	21.25	16,465,000	59.42	1.55	25,521,000
1917	656,500	21.50	14,114,800	59.38	2.09	29,499,900

I. Area, Yield, Quality and Value of Principal Field Crops in Canada, 1915, 1916 and 1917—con.

Field Crops.	Area.	Yield per acre.	Total Yield.	Weight per measured bushel.	Average price per bushel.	Total Value.
	acres.	bush.	bush.	lb.	\$	\$
Ontario—con.						
Spring wheat.....1915	121,000	22.36	2,706,000	59.41	0.96	2,598,000
1916	90,200	16.25	1,466,000	57.80	1.55	2,272,000
1917	113,000	19.50	2,203,500	59.32	2.08	4,583,300
All wheat.....1915	1,093,000	27.67	30,252,000	59.41	0.93	28,216,000
1916	865,000	20.73	17,931,000	58.79	1.55	27,793,000
1917	769,500	21.25	16,318,300	59.36	2.09	34,083,200
Oats.....1915	3,095,000	39.68	122,810,000	34.67	0.39	47,896,000
1916	1,991,000	25.50	50,771,000	30.30	0.64	32,493,000
1917	2,687,000	36.50	98,075,500	34.11	0.72	70,614,400
Barley.....1915	449,000	34.23	15,369,000	47.83	0.56	8,607,000
1916	326,000	23.00	7,498,000	44.94	0.99	7,422,000
1917	361,000	31.00	11,191,000	47.20	1.16	12,981,600
Rye.....1915	78,000	19.88	1,551,000	56.89	0.79	1,225,000
1916	69,000	17.50	1,208,000	55.20	1.17	1,413,000
1917	68,000	17.75	1,207,000	55.69	1.64	1,979,500
Peas.....1915	169,000	17.79	3,007,000	59.86	1.54	4,631,000
1916	126,000	14.25	1,796,000	59.71	2.06	3,700,000
1917	126,000	16.75	2,110,500	59.88	3.21	6,774,700
Beans.....1915	37,500	16.00	600,000	59.76	3.05	1,800,000
1916	27,000	11.75	317,000	59.72	5.34	1,693,000
1917	36,000	11.75	423,000	59.42	6.79	2,872,200
Buckwheat.....1915	169,000	21.81	3,686,000	48.21	0.70	2,580,000
1916	175,000	14.50	2,538,000	45.80	1.09	2,766,000
1917	162,000	18.75	3,037,500	46.69	1.37	4,161,400
Mixed grains.....1915	345,000	39.91	13,769,000	44.76	0.54	7,435,000
1916	286,000	26.00	7,436,000	40.77	0.89	6,618,000
1917	295,000	37.75	11,136,300	44.99	1.12	12,472,700
Flax.....1915	5,000	12.38	62,000	50.78	1.72	107,000
1916	4,500	9.25	42,000	57.17	2.78	117,000
1917	4,000	13.00	52,000	55.00	3.70	192,400
Corn for husking..1915	237,000	58.48	13,860,000	55.75	0.69	9,674,000
1916	160,000	37.25	5,960,000	57.18	1.05	6,258,000
1917	160,000	37.25	5,960,000	54.58	1.72	10,251,200
Potatoes.....1915	155,000	92.66	14,362,000	—	0.76	10,915,000
1916	133,000	61.00	8,113,000	—	1.28	6,618,000
1917	142,000	133.67	18,981,000	—	1.00	18,981,000
Turnips, mangolds, etc.....1915	112,000	394.42	44,175,000	—	0.21	9,277,000
1916	97,000	211.00	20,467,000	—	0.36	7,368,000
1917	94,000	340.93	32,047,000	—	0.35	11,216,000
Hay and clover..1915	3,082,000	tons. 1.32	4,068,000	—	per ton. 14.06	57,196,000
1916	3,059,000	2.00	6,118,000	—	11.90	72,804,000
1917	2,998,000	1.70	5,097,000	—	10.26	52,295,000
Fodder corn.....1915	287,000	10.63	3,051,000	—	4.76	14,523,000
1916	248,000	6.50	1,612,000	—	4.80	7,738,000
1917	265,000	7.54	1,998,000	—	5.00	9,990,000

I. Area, Yield, Quality and Value of Principal Field Crops in Canada, 1915, 1916 and 1917—con.

Field Crops.	Area.	Yield per acre.	Total Yield.	Weight per measured bushel.	Average price per ton.	Total Value.
	acres.	tons.	tons.	lb.	\$	\$
Ontario—con.						
Sugar beets.....1915	18,000	7.83	141,000	—	5.50	775,500
1916	15,000	4.75	71,000	—	6.20	440,000
1917	14,000	8.40	117,600	—	6.75	793,800
Alfalfa.....1915	60,000	2.72	163,000	—	13.41	2,186,000
1916	56,000	3.00	168,000	—	9.75	1,638,000
1917	52,000	2.74	142,500	—	10.08	1,436,000
Manitoba—		bush.	bush.		per bush.	
Fall wheat.....1917	2,705	23.29	63,000	61.33	0.90	56,400
1916	3,829	15.93	61,000	—	1.40	85,400
1917	3,860	22.25	85,900	62.33	2.20	189,000
Spring wheat....1915	2,797,719	24.76	69,274,000	61.18	0.90	62,606,500
1916	2,721,896	10.88	29,606,000	51.23	1.23	36,415,400
1917	2,445,000	16.75	40,953,800	60.82	2.05	83,955,300
All wheat.....1915	2,800,424	24.76	69,337,000	61.18	0.90	62,662,900
1916	2,725,725	10.88	29,667,000	—	1.23	36,500,800
1917	2,448,860	16.75	41,039,700	60.86	2.05	84,144,300
Oats.....1915	1,317,365	38.52	50,750,000	36.36	0.35	17,912,800
1916	1,443,599	33.55	48,439,000	33.05	0.49	23,735,100
1917	1,500,000	30.25	45,375,000	27.27	0.67	30,401,300
Barley.....1915	567,080	29.38	16,658,000	47.70	0.51	8,420,400
1916	687,503	19.97	13,729,000	42.78	0.80	10,983,200
1917	708,000	22.50	15,930,000	46.27	1.07	17,045,100
Rye.....1915	11,507	18.08	208,000	57.55	0.80	167,100
1916	30,050	18.54	557,000	56.50	1.06	590,400
1917	37,000	17.25	638,300	54.03	1.62	1,034,000
Mixed grains.....1915	659	33.38	22,000	43.00	0.48	10,600
1916	1,400	32.25	45,000	42.00	0.45	20,300
1917	1,400	31.00	43,400	—	1.25	54,250
Flax.....1915	14,505	8.27	120,000	55.00	1.61	193,300
1916	15,684	13.38	210,000	—	2.13	447,300
1917	16,300	9.00	146,700	54.50	2.85	418,100
Potatoes.....1915	29,878	85.85	2,565,000	—	0.64	1,636,100
1916	31,987	147.22	4,709,000	—	0.61	2,872,500
1917	34,400	105.90	3,643,000	—	0.76	2,769,000
Turnips, mangolds, etc.....1915	2,658	250.19	665,000	—	0.42	282,500
1916	3,118	145.00	452,000	—	0.49	221,500
1917	2,500	185.12	463,000	—	0.63	292,000
Hay and clover...1915	88,478	1.02	90,000	—	9.43	848,500
1916	77,642	1.83	142,000	—	7.80	1,107,600
1917	75,000	1.00	75,000	—	11.11	833,300
Fodder corn.....1915	7,591	2.63	20,000	—	6.18	123,600
1916	9,830	2.75	27,000	—	4.67	126,000
1917	9,800	4.86	47,600	—	7.50	357,000
Alfalfa.....1915	3,671	1.36	5,000	—	12.20	61,000
1916	4,422	2.75	12,200	—	11.83	144,300
1917	4,400	2.07	9,100	—	13.45	122,400

I. Area, Yield, Quality and Value of Principal Field Crops in Canada, 1915, 1916 and 1917—con.

Field Crops.	Area.	Yield per acre.	Total Yield.	Weight per measured bushel.	Average price per bushel.	Total Value.
	acres.	bush.	bush.	lb.	\$	\$
Saskatchewan—						
Fall wheat.....1915	9,968	26.28	262,000	—	0.92	240,900
1916	15,253	21.24	324,000	59.50	1.41	456,800
1917	10,000	17.00	170,000	60.00	2.07	351,900
Spring wheat....1915	8,919,292	25.12	224,050,000	60.75	0.91	203,647,100
1916	9,016,851	16.33	147,235,000	55.18	1.28	188,460,800
1917	8,263,250	14.25	117,751,300	60.92	1.95	229,615,000
All wheat.....1915	8,929,260	25.12	224,312,000	—	0.91	203,888,000
1916	9,032,109	16.34	147,559,000	55.27	1.28	188,917,600
1917	8,273,250	14.25	117,921,300	60.91	1.95	229,966,900
Oats.....1915	3,336,245	43.48	145,066,000	37.48	0.32	46,125,700
1916	3,791,807	43.06	163,278,000	35.76	0.46	75,107,900
1917	4,521,600	27.25	123,213,600	34.58	0.62	76,392,400
Barley.....1915	299,993	31.74	9,523,000	47.54	0.46	4,391,300
1916	367,207	27.00	9,916,000	46.02	0.77	7,635,300
1917	669,900	21.00	14,067,900	46.84	1.00	14,067,900
Rye.....1915	7,207	28.17	203,000	55.17	0.64	130,500
1916	22,759	24.08	548,000	55.91	1.10	602,800
1917	53,250	18.75	998,400	43.00	1.63	1,627,400
Peas.....1915	525	15.43	8,100	61.00	1.72	13,900
1916	1,600	32.50	52,000	60.00	2.25	117,000
1917	2,605	17.25	44,900	60.00	4.00	179,600
Mixed grains.....1915	2,372	25.30	60,000	48.33	0.69	41,600
1916	14,150	35.00	495,300	40.00	0.46	227,800
1917	39,500	32.00	1,264,000	50.00	1.25	1,580,000
Flax.....1915	395,254	13.30	5,255,000	55.89	1.51	7,928,400
1916	542,034	12.35	6,692,000	55.29	2.23	14,923,200
1917	753,700	6.25	4,710,600	55.55	2.60	12,247,600
Potatoes.....1915	34,885	110.28	3,847,000	—	0.68	2,626,900
1916	46,989	155.76	7,319,000	—	0.62	4,537,800
1917	67,700	133.00	9,010,000	—	0.85	7,659,000
Turnips, mangolds, etc.....1915	1,245	232.93	290,000	—	0.31	91,200
1916	1,621	252.93	410,000	—	0.57	233,700
1917	11,104	155.55	1,727,000	—	0.91	1,572,000
Hay and clover...1915	25,113	1.39	35,000	—	8.39	293,500
1916	25,154	2.35	59,000	—	5.85	345,200
1917	260,275	1.42	369,600	—	10.12	3,740,000
Fodder corn.....1915	1,877	2.40	4,500	—	6.49	29,200
1916	2,253	2.60	5,900	—	6.00	35,400
1917	15,658	2.00	31,300	—	8.00	250,400
Alfalfa.....1915	2,620	1.83	4,800	—	9.48	45,500
1916	3,086	2.85	8,800	—	10.25	90,200
1917	9,500	1.61	15,300	—	13.40	205,000
Alberta—						
Fall wheat.....1915	39,908	bush.	bush.	per bush.		
1916	18,177	31.30	1,249,000	61.32	0.84	1,051,900
1917	51,700	30.20	549,000	61.19	1.39	763,100
		20.50	1,059,900	60.53	1.98	2,098,600

I. Area, Yield, Quality and Value of Principal Field Crops in Canada, 1915, 1916 and 1917—con.

Field Crops.	Area.	Yield per acre.	Total Yield.	Weight per measured bushel.	Average price per bushel.	Total Value.
	acres.	bush.	bush.	lb.	\$	\$
Alberta—con.						
Spring wheat.....1915	2,098,123	31.12	65,289,000	61.57	0.88	57,273,700
1916	2,586,798	24.95	64,539,000	58.00	1.33	85,836,900
1917	2,845,600	18.25	51,932,200	60.86	1.73	89,842,700
All wheat.....1915	2,138,031	31.12	66,538,000	61.52	0.88	58,325,600
1916	2,604,975	24.99	65,088,000	58.45	1.33	86,600,000
1917	2,897,300	18.25	52,992,100	60.81	1.74	91,941,300
Oats.....1915	1,827,071	45.91	83,876,000	39.76	0.31	25,532,900
1916	2,124,081	48.11	102,199,000	37.36	0.46	47,011,500
1917	2,537,900	34.00	86,288,600	37.09	0.63	54,361,800
Barley.....1915	304,009	32.31	9,822,000	49.57	0.44	4,340,400
1916	336,586	29.04	9,774,000	46.18	0.71	6,939,500
1917	472,100	22.00	10,386,200	45.16	0.98	10,178,500
Rye.....1915	15,963	23.47	374,726	56.63	0.62	232,400
1916	17,975	24.49	440,000	53.71	0.95	418,000
1917	30,880	20.50	633,000	55.25	1.50	949,500
Peas.....1915	160	20.00	3,200	62.00	2.09	6,700
1916	650	20.00	13,000	57.50	2.25	29,300
1917	1,851	17.50	32,400	60.00	2.00	64,300
Mixed grains.....1915	2,370	37.13	88,000	47.20	0.52	45,700
1916	4,550	30.00	136,500	36.00	0.35	47,800
1917	24,027	25.75	618,700	51.50	1.20	742,400
Flax.....1915	48,000	13.96	670,000	56.37	1.44	966,700
1916	95,063	13.79	1,310,500	55.91	1.06	1,389,100
1917	139,800	7.00	978,600	54.00	2.78	2,720,500
Potatoes.....1915	28,314	142.12	4,024,000	—	0.44	1,779,800
1916	29,216	163.71	4,783,000	—	0.53	2,535,000
1917	48,917	151.46	7,409,000	—	0.76	5,631,000
Turnips, man- golds, etc. 1915	1,688	235.19	397,000	—	0.29	116,000
1916	1,700	279.41	475,000	—	0.61	289,800
1917	10,947	207.56	2,272,000	—	0.74	1,681,000
		tons.	tons.		per ton.	
Hay and clover...1915	187,404	1.31	246,000	—	7.60	1,870,600
1916	173,461	1.93	334,000	—	8.62	2,879,100
1917	493,522	1.48	730,400	—	10.92	7,976,000
Fodder corn.....1915	701	3.42	2,400	—	6.13	14,700
1916	675	2.56	1,700	—	9.00	15,300
1917	3,976	1.00	4,000	—	7.00	28,000
Alfalfa.....1915	17,207	2.15	37,000	—	7.64	282,700
1916	20,612	2.65	54,600	—	10.70	584,200
1917	31,396	2.05	64,400	—	10.73	691,000
		bush.	bush.		per bush.	
British Columbia—						
Fall wheat.....1915	6,000	33.44	200,600	60.46	0.91	182,500
1916	6,200	30.75	191,000	61.00	1.53	292,000
1917	3,240	31.75	102,850	60.67	1.92	197,500
Spring wheat.....1915	10,000	32.43	324,400	58.40	0.96	311,400
1916	9,800	31.00	304,000	59.55	1.54	468,000
1917	18,100	28.50	515,850	59.55	2.00	1,031,700

I. Area, Yield, Quality and Value of Principal Field Crops in Canada, 1915, 1916 and 1917—con.

Field Crops.	Area.	Yield per acre.	Total Yield.	Weight per measured bushel.	Average price per bushel.	Total Value.
	acres.	bush.	bush.	lb.	\$	\$
British Columbia—con.						
All wheat.....1915	16,000	32.80	525,000	59.32	0.94	493,900
1916	16,000	30.94	495,000	60.16	1.54	760,000
1917	21,340	29.00	618,700	59.94	1.99	1,229,200
Oats.....1915	71,000	61.84	4,390,600	36.28	0.49	2,151,400
1916	60,000	60.50	3,630,000	37.15	0.64	2,323,000
1917	60,200	53.75	3,235,800	35.50	0.90	2,912,200
Barley.....1915	2,650	40.36	106,900	49.89	0.64	68,400
1916	2,700	45.75	124,000	47.60	0.83	103,000
1917	5,500	29.25	160,900	48.67	1.28	206,000
Peas.....1915	1,300	29.75	38,700	60.00	1.24	48,000
1916	1,300	33.75	44,000	61.20	1.67	73,000
1917	1,338	23.75	31,800	59.83	2.46	78,200
Mixed grains.....1915	2,600	40.00	104,000	—	0.50	52,000
1916	2,600	50.00	130,000	52.00	1.25	163,000
1917	1,850	40.00	74,000	—	0.70	51,800
Potatoes.....1915	16,000	247.28	3,956,000	—	0.45	1,780,000
1916	15,300	189.00	2,892,000	—	0.70	2,024,000
1917	15,024	166.55	2,502,000	—	0.69	1,726,400
Turnips, man-1915	3,800	455.61	1,731,000	—	0.39	675,000
golds, etc. 1916	3,700	500.00	1,850,000	—	0.50	925,000
1917	4,590	344.58	1,582,000	—	0.64	1,012,000
Hay and clover..1915	167,000	tons. 2.34	391,000	—	per ton. 14.57	5,697,000
1916	175,000	2.67	467,000	—	17.75	8,289,000
1917	129,254	1.85	239,000	—	17.60	4,206,400
Fodder corn.....1915	430	12.62	5,400	—	4.00	22,000
1916	450	10.00	4,500	—	7.00	32,000
1917	2,239	7.00	15,700	—	15.00	235,500
Alfalfa.....1915	12,100	3.52	43,000	—	14.84	638,000
1916	12,600	2.88	36,000	—	15.00	540,000
1917	8,681	2.58	22,400	—	22.92	513,400

II. Areas and Yields of Wheat, Oats, Barley and Flaxseed in the three Prairie Provinces, 1915-17.

Provinces.	1915.	1916.	1917.	1915.	1916.	1917.
	acres.	acres.	acres.	bush.	bush.	bush.
Prairie Provinces—						
Wheat.....	13,867,715	14,362,809	13,619,410	360,187,000	242,314,000	211,953,100
Oats.....	6,480,681	7,359,487	8,559,500	279,692,000	313,916,000	254,877,200
Barley.....	1,171,082	1,391,296	1,850,000	36,003,000	33,419,000	40,384,100
Flax.....	457,759	652,781	909,800	6,045,000	8,212,500	5,835,900
Manitoba—						
Wheat.....	2,800,424	2,725,725	2,448,860	69,337,000	29,667,000	41,039,700
Oats.....	1,317,365	1,443,599	1,500,000	50,750,000	48,439,000	45,375,000
Barley.....	567,080	687,503	708,000	16,658,000	13,729,000	15,930,000
Flax.....	14,505	15,684	16,300	120,000	210,000	146,700

II. Areas and Yields of Wheat, Oats, Barley and Flaxseed in the three Prairie Provinces, 1915-1917—con.

Provinces.	1915.	1916.	1917.	1915.	1916.	1917.
	acres.	acres.	acres.	bush.	bush.	bush.
Saskatchewan—						
Wheat.....	8,929,260	9,032,109	8,273,250	224,312,000	147,559,000	117,921,300
Oats.....	3,336,245	3,791,807	4,521,600	145,066,000	163,278,000	123,213,600
Barley.....	299,993	367,207	669,900	9,523,000	9,916,000	14,067,900
Flax.....	395,254	542,034	753,700	5,255,000	6,692,000	4,710,600
Alberta—						
Wheat.....	2,138,031	2,604,975	2,897,300	66,538,000	65,088,000	52,992,100
Oats.....	1,827,071	2,124,081	2,537,900	83,876,000	102,199,000	86,288,600
Barley.....	304,009	336,586	472,100	9,822,000	9,774,000	10,386,200
Flax.....	48,000	95,063	139,800	670,000	1,310,500	978,600

III. Total Areas and Values of Field Crops in Canada, 1912-17.

AREAS.

Provinces.	1912.	1913.	1914.	1915.	1916.	1917.
	acres.	acres.	acres.	acres.	acres.	acres.
Canada.....	35,575,550	35,374,930	33,436,675	39,140,460	38,930,333	42,602,288
P. E. Island.....	462,880	456,970	461,510	481,930	485,910	491,210
Nova Scotia.....	700,160	711,630	693,860	727,260	746,580	752,980
New Brunswick..	931,990	906,130	904,055	893,800	889,220	888,125
Quebec.....	5,010,400	4,898,800	4,863,850	4,901,760	4,590,200	5,778,139
Ontario.....	9,349,000	9,200,000	8,973,700	9,391,500	7,637,500	8,233,500
Manitoba.....	4,971,400	4,965,000	4,671,790	4,843,816	5,030,960	4,837,660
Saskatchewan....	10,315,800	10,307,600	9,238,000	13,036,596	13,850,769	14,678,042
Alberta.....	3,603,060	3,690,100	3,369,270	4,570,918	5,409,544	6,692,616
British Columbia	230,860	238,700	260,640	292,880	289,650	250,016

VALUES.

	\$	\$	\$	\$	\$	\$
Canada.....	557,344,100	552,771,500	638,580,300	825,370,600	886,494,900	1,144,636,450
P. E. Island.....	9,456,000	9,535,500	11,544,000	10,930,400	14,124,100	16,530,000
Nova Scotia.....	19,420,000	17,132,900	21,969,700	19,556,700	22,369,800	23,313,400
New Brunswick..	17,295,700	17,965,100	20,045,100	20,092,600	22,924,200	24,404,200
Quebec.....	69,901,000	88,589,000	99,279,000	104,683,000	102,937,300	153,197,900
Ontario.....	198,715,000	167,835,000	196,220,000	207,043,500	190,646,000	251,095,100
Manitoba.....	71,647,000	64,557,000	65,528,400	92,318,800	76,749,000	137,470,750
Saskatchewan....	115,813,000	129,376,000	152,751,500	265,605,700	292,773,900	349,488,200
Alberta.....	44,503,400	46,712,000	59,779,600	93,514,200	148,738,600	176,965,800
British Columbia	10,593,000	11,069,000	11,463,000	11,625,700	15,232,000	12,171,100

OAT CROP OF 1917: AREAS UNPRODUCTIVE.

In consequence of the lateness of the sowing season of 1917, and the prolonged period of drought during the growing period, considerable areas that were sown to oats in the Prairie Provinces were either a total loss or were cut green. In their December report the crop correspon-

dents of the Census and Statistics Office were asked to estimate the percentage of the area sown to oats in their respective districts that were (a) totally unproductive and (b) cut green. Compilation of the returns received shows that in Manitoba $20\frac{1}{4}$ p.c. of the area sown failed to produce grain, $6\frac{1}{2}$ p.c. being a total loss and $13\frac{3}{4}$ p.c. being cut green. In Saskatchewan the proportions were $6\frac{1}{2}$ p.c. total loss and 17 p.c. cut green, and in Alberta they were 6 p.c. total loss and 14 p.c. cut green. In British Columbia the total loss was insignificant, but about 36 p.c. of the crop was cut green. In this province a practice is to grow oats for the purpose of green fodder. In Eastern Canada it was only in New Brunswick that a total loss exceeding 5 p.c. was estimated, the figures being 6 p.c. for New Brunswick and between 8 and 9 p.c. for Quebec, with areas cut green in these provinces of $7\frac{1}{2}$ and $6\frac{1}{2}$ p.c., respectively. In Prince Edward Island and in Ontario, the proportions reported of total loss and of areas cut green are so small as to be practically negligible.

QUALITY OF GRAIN CROPS OF CANADA, 1908-1917.

Since the institution of the present system of crop-reporting by the Census and Statistics Office in 1908 annual records have been kept of the average weights per measured bushel of grain crops, as returned by the crop-reporting correspondents of the Office. Consequently it is now possible to strike a ten years' average of the weights per measured bushel against which can be measured the record of any particular year. The following statement gives the average weight per measured bushel for each of the principal grain crops from 1908 to 1917 with the ten year average for the period:—

Quality of Grain Crops as indicated by Average Weight per measured bushel, 1908-17.

Crop.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	Ten year average 1908- 17.
	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
Fall wheat.....	60.30	60.41	60.11	61.12	60.21	60.25	59.61	59.71	59.52	59.37	60.11
Spring wheat....	58.51	59.50	59.71	59.21	58.90	60.37	59.46	60.31	56.51	59.48	59.26
All wheat.....	59.10	59.83	59.81	59.65	59.23	60.34	59.49	60.19	57.10	59.46	59.46
Oats.....	35.47	35.65	36.08	34.65	35.40	36.48	35.31	36.61	33.86	33.55	35.31
Barley.....	42.02	47.09	47.69	46.97	47.59	48.41	47.22	48.26	45.66	46.97	47.39
Rye.....	55.58	54.53	55.72	55.11	54.84	55.66	55.47	56.32	54.95	53.44	55.18
Peas.....	57.25	60.92	58.73	59.58	56.88	60.00	60.53	60.74	59.88	59.81	59.51
Beans.....	59.18	60.23	59.81	58.30	59.05	59.70	60.21	59.61	60.00	59.70	59.56
Buckwheat.....	47.49	47.73	47.83	47.32	47.62	50.32	48.20	48.02	46.35	46.49	47.76
Mixed grains.....	45.25	44.39	45.45	45.10	44.48	44.74	45.51	44.98	43.13	44.41	44.78
Flax.....	54.23	55.56	54.96	58.29	54.88	55.79	52.49	55.28	54.99	54.73	55.40
Corn for husking.	59.59	57.80	57.14	55.29	55.67	56.27	56.62	56.32	56.51	56.18	56.52

The table shows that for fall wheat the decennial average is 60.11 lb., and that this average has not been reached during the past four years; but that for each of the previous six years it was either reached

or exceeded. For spring wheat the average, 59.26 lb., was reached or exceeded in six years out of the ten and for all wheat seven years out of the ten, the average being 59.46 lb. The average of 35.31 lb. for oats was reached or exceeded for seven years out of the ten and for barley (average 47.39 lb.) four years out of the ten. For the remaining crops the decennial averages are as follows, the number of times the average was exceeded being placed within brackets: Rye 55.18 lb. (5); peas 59.51 lb. (7) beans 59.56 lb. (7); buckwheat 47.76 lb. (4); mixed grains 44.78 (5); flax 55.40 lb. (3); corn for husking 56.52 lb. (4).

REPORTS ON THE CONDITION OF LIVE STOCK.

As in previous years, reports were collected from the correspondents of the Census and Statistics Office as to whether the supplies of fodder were sufficient to carry farm live stock in good condition through the winter. Correspondents were requested to reply "Yes" or "No" for each description of fodder, viz., hay, straw, silage, grain and roots. The following statement shows by provinces the total replies that were affirmative for each substance:—

Provinces.	Hay.	Straw.	Silage.	Grain.	Roots.
Prince Edward Island.....	59	66	71	84	90
Nova Scotia.....	84	92	43	44	68
New Brunswick.....	96	82	36	32	78
Quebec.....	99	90	47	45	35
Ontario.....	99	99	67	76	53
Manitoba.....	60	85	25	71	33
Saskatchewan.....	76	93	18	72	31
Alberta.....	81	88	38	85	55
British Columbia.....	80	75	66	37	75
Canada.....	86	90	50	63	48

The following is a summary of the detailed remarks of correspondents in each province:—

Prince Edward Island.—All live stock went into winter quarters early and in fair condition. Straw is scarce; but according to reports there will be no shortage of feed, as other substances will be sufficient.

Nova Scotia.—A few reports state that horses and cattle are looking thin, but in general all live stock have been stabled in good condition. The supply of fodder is considered sufficient to carry the stock through the winter.

New Brunswick.—Live stock in general were housed in good condition. There is an abundant supply of hay and a fair quantity of roots, but there is not a sufficient quantity of grain. With careful feeding, there will be plenty of fodder for horses and cattle this winter.

Quebec.—Owing to the late spring, wet summer and early fall, the crops have been unfavourable. The yield was much below

the average, and in many cases the crops were almost a total failure. Much of the fodder corn and late grains was destroyed by the early frost. Throughout the province live stock are generally in good condition, though in a few localities the stock are reported thinner than usual owing to the severe weather in the early fall. Several districts report increased herds, while in some localities the herds have been reduced owing to the high prices obtainable for beef cattle. In some sections more attention is being given to the raising of stock. Hay is abundant, but largely of inferior quality. Silage and all grains are scarce. In many cases seed grain will have to be procured.

Ontario.—With the exception of a few localities, live stock are generally in good condition throughout the province. In some sections the stock went into winter quarters rather thin owing to the short pastures due to dry fall weather. A few increases in number of stock are reported, while in a few cases the stock have been reduced. An increased interest in hog raising is reported. Horses are thinner than usual. Fodder is generally reported to be sufficient for the winter, but silage and grains are scarce. Much of the fodder corn was a failure, but in some cases this was remedied to some extent by the use of immature grain corn for silage. In many districts hay was harvested in poor condition owing to the weather and also the want of sufficient help to save it in time.

Manitoba.—Live stock are generally in good condition. Horses are thin in some districts, and cattle also have been unfavourably affected by the scarcity of pasture feed. Despite the exceptionally fine fall, which permitted the stock to remain out till December, there is a general shortage of fodder for winter feeding. Most of the correspondents report that with careful handling there may be sufficient feed, but a few express the fear that there may be loss of stock in the spring due to shortage of fodder.

Saskatchewan.—Owing to the dry summer, live stock came off the grass in rather poor condition, but on account of the favourable fall weather and good pickings in the stubble a great improvement was effected, and the stock are now in good condition throughout the greater part of the province, though in some localities they are reported as rather thin. A number of cases of a reduction of herds are reported. An early fall of snow caused many to sell stock that they intended wintering. Hogs and grain fodders are scarce, but the shortage in these fodders is made up by the excellent quality of the wheat straw, and in most of the localities the supply of fodder will be sufficient for wintering the stock.

Alberta.—The condition of live stock is generally good, but some localities report the stock as losing flesh on account of the severe weather. Several districts report an increase in the number of cattle being wintered, while only one correspondent reports a decrease. A few cases are reported of mortality among cattle, said to be due to feeding on wild carrots. Fodder is scarce in some districts, but it is generally estimated that there will be sufficient to carry the stock

through the winter if it be not too severe or prolonged. Hog feed is scarce, and some pigs are being sold for want of feed.

British Columbia.—Horses and cattle are in good condition, and are still feeding out on account of the weather being so fine and mild. The prices of grain feed are very high, and in many instances the supply of fodder is said to be light. In general, there will be a sufficient quantity of feed for live stock this winter.

DOMINION EXPERIMENTAL FARMS AND STATIONS.

Central Farm, Ottawa.—Except for the first five days, and also another mild spell extending from the 19th to the 21st, the weather during December has been extremely cold, and particularly so from the 26th to the 31st. Heavy snowfalls were experienced from the 8th to the 9th, and from the 27th to the 28th, and a moderately heavy fall from the 27th to the 28th, the total being well above the average. The highest temperature recorded is 37.8 on the 1st, and the lowest, -30.8, on the 30th, and the mean is 6.83, compared with extremes of 46 and -20, and a mean temperature of 16.62 for the corresponding period of 1916. The precipitation totals 2.96 inches, made up of 0.26 of an inch of rain and 27 inches of snow, as against 2.47 inches a year ago, consisting of 0.6 of an inch of rain and 18.75 inches of snow. Notwithstanding the fact that on eight days the sun did not show itself at all, the sunshine recorded aggregates more than usual for this period; it averaged 4.11 hours a day, compared with 2.77 hours a day for December, 1916.

Charlottetown, P.E.I.—J. A. Clark, Superintendent, reports: "December has been cold and stormy throughout. The mean temperature for the month is 19.79, which is more than six degrees below the average December mean of the nine previous years. The sunshine aggregates only 46 hours. A very heavy snowstorm on the 2nd put the telegraph, telephone, electric light and railway out of commission. A second storm, which started on the 7th, completely blocked traffic again for several days. A blanket of about two feet of snow covers the fields everywhere. Severe frost occurred about the middle of the month and during the last week, the lowest temperature being seven degrees below zero; but the ground has not frozen to any depth on account of the protection it has had from the snow. At the Station, the steers in the feeding experiments have made an average gain of 50 lb. during the month. The lambs also made very satisfactory gains. One Short Course in Agriculture was held at Baltic; but the others had to be cancelled owing to the storms. Navigation closed at Summerside on December 11th. The regular car ferry service between Port Borden and Cape Tormentine was started on the 12th."

Kentville, N.S.—W. S. Blair, Superintendent, reports: "December has been unusually cold, the weather being particularly severe as a rule from the 9th to the 19th and from the 27th to the 31st, and below-zero being recorded on six different days. The mean temperature for the month is 19.66, as compared with a mean

temperature for the same period in 1916 of 27.83, in 1915 of 29.14, in 1914 of 22.89 and in 1913 of 23.44. The bright sunshine totals only 33.5 hours, compared with 50.6 hours for the same period in 1916, 56.4 hours in 1915, 85.1 hours in 1914 and 74.65 hours in 1913. The rainfall amounts to 1.47 inch, of which 0.66 of an inch fell on the 9th. The snowfall totals 30.5 inches, of which 5 inches fell on the 2nd, 8 inches on the 7th and 12 inches on the 10th. The snow on the 2nd made sleighing, which continued good throughout the month. The roads have been good for hauling and, as a result, much wood has been marketed on account of the coal shortage."

Nappan, N.S.—W. W. Baird, Superintendent, reports:—"December throughout has been a typical and severe winter month. The first storm of any consequence occurred on the night of the 1st and continued over the 2nd and 3rd, from two to two and a half feet of snow falling; this was accompanied by a strong northeast wind. Heavy snow was again experienced on the 7th and 8th; this storm was very destructive, breaking down trees and completely crippling telegraph and telephone communication, and greatly impeded traffic. On the 9th, the weather was mild with a light rain, which was very beneficial, as it settled the snow and took it off the trees before further damage resulted. A blizzard was experienced on the 10th. From the 15th to the 22nd, the weather was changeable and somewhat dull. The thermometer has registered below zero on nine different days, these readings ranging from 2 to 16 degrees below. The weather being so continuously severe, frost has penetrated through buildings in many cases, and animals not comfortably housed have suffered in consequence. These conditions have likewise told on the amount of feed consumed to keep animals gaining in flesh. The hay market has stiffened up considerably, the demand being much greater. All other farm produce remains high and there is a ready market for same."

Fredericton, N.B.—W. W. Hubbard, Superintendent, reports: "This December will pass into history as the coldest one on record in New Brunswick. The mean temperature is 9.8, compared with a mean of 23 for the previous year, and an average mean of 19 for this time during the past forty-three years. The lowest reading of the thermometer recorded during the month is -27.5. The cold, being accompanied by high winds, has resulted in the frost penetrating houses and cellars to the great destruction of plumbing and stored vegetables. The precipitation has been very light, being only 1.21 inch, while the average for the month is 3.5 inches. The sunshine totals only 83.15 hours. The unusually severe weather has caused much suffering to both people and live stock, as fuel has been scarcer than usual and much more than ordinary has been required. Since the 3rd of the month, snow roads have been good, and winter work is well advanced. Live stock has consumed much more than the normal amount of fodder, of which, fortunately, there is an abundance. The 132 head of cattle on the Station farm are doing well. Colts

are thriving, running loose with a shed shelter; and sheep are in good condition. To keep out frost, heaters have been required in nearly all the cellars at the Station."

Ste. Anne de la Pocatière, Que.—Jos. Begin, Superintendent, reports:—"Except for a few mild days from the 21st to the 24th, December has been dry and very cold. The highest temperature recorded is 36.6, the lowest -26.6, and the mean 14.2 compared with extremes of 39.2 and -14.5 and a mean of 14 a year ago. The precipitation totals 1.34 inch, made up of 0.04 of an inch of rain and 13 inches of snow, while a year ago it amounted to 4.32 inches, consisting of 0.22 of an inch of rain and 41 inches of snow. The bright sunshine averages 2.9 hours a day, against 2.4 hours a day in 1916. Frequent and violent winds have characterized the latter part of the month; and most of the snow has drifted to sheltered spots, leaving exposed places bare. There is good sleighing in this district, and farmers are taking advantage of it. There is an abundance of hay, but, as all kinds of grain and mill feeds are almost at famine prices, and scarcely obtainable locally, steers, lambs, and even hogs have been sold out early in the month in considerable number, before profitably finished; whilst, if there had been the usual opportunity of obtaining the extra mill feeds needed, considerable weight and value would have been added to the stock sold, to the benefit of both the community and the owners. At the Station, the dairy herd is thriving and giving a satisfactory milk yield; the young stock are also making satisfactory gains."

Cap Rouge, Que.—G. A. Langelier, Superintendent, reports:—"December has been the coldest month experienced since meteorological records have been kept at this Station, the closing week of the year being particularly severe and the thermometer dropping to -34.7. The mean temperature is 8.36, while the average December mean for the five previous years is 17.85. The precipitation totals 3.22 inches and the sunshine 54.9 hours; while the average figures for the corresponding period from 1912 to 1916 are 2.82 inches precipitation, and 52.1 hours of sunshine. The roads have been in fair shape, and farmers have had the advantage of this in hauling to Quebec city the hay, straw, meat, eggs, etc., which they have had to sell.

Lennoxville, Que.—J. A. McClary, Superintendent, reports:—"One of the coldest Decembers on record has been experienced here, the thermometer registering below zero on twenty-one different days, with a highest temperature of 40, lowest of -45 and a mean of 5.74; compared with extremes of 43 and -40 and a mean of 7.11 a year ago. The bright sunshine recorded amounts to 68.1 hours, compared with 69.5 hours last year. The precipitation totals 2.55 inches, while a year ago it aggregated 3.59 inches. With the prevailing cold weather, it has been impossible for farmers to accomplish the work they would like to have done during December. The ground is frozen very deep at present, and many farmers are having considerable trouble with their water supply systems. It is gratifying to note that the farmers of this district are taking advantage of the

annual distribution of free samples of seed grain and potatoes made by the Experimental Farms Branch. The Lennoxville Station is dealing with the potato applications from the twenty-three Quebec counties which it is supposed to serve. The Provincial and Federal Departments of Agriculture are doing what they can by holding meetings to get the farmers interested in keeping more hogs and other live stock, to help in meeting the food shortage there is bound to be all over the world. Much has been said in this district in regard to the keeping of more brood sows, and it is hoped that good results will materialize from the efforts that have been put forth. Forty-five sows are being kept and bred at this Station for the Provincial Department of Agriculture, and no doubt they will be sold to farmers in the spring at reasonable prices."

Brandon, Man.—W. C. McKillican, Superintendent, reports: "December has been unusually severe, the mean temperature for the month being -6.3 , which is the lowest for many years, and the lowest reading of the thermometer -40 , on the 29th. The snow-fall has been light and sleighing is still poor. At the Experimental Farm, the new farm buildings are not yet completed and great inconvenience is being felt. The work engaging attention here has included, in addition to caring for the live stock, the drawing of feed and bedding."

Indian Head, Sask.—W. H. Gibson, Superintendent, reports:—"The Experimental Farm records show this December to be one of the coldest that has been experienced. Snow fell on seven days during the month, and sleighing is now good. The bulk of the grain from this district has reached the elevators. The work engaging attention at the Farm has included the cleaning and loading of grain for the Cereal Division at Ottawa, crushing grain for stock, and caring for the live stock and poultry."

Rosthern, Sask.—Wm. A. Munro, Superintendent, reports: "This has been the coldest December since records have been kept at this Station, and the minimum of -51.3 registered, is the lowest by ten degrees, and, with the exception of December, 1911, the lowest by twenty degrees. Along with the severe weather, the ground has been sufficiently covered by snow to prevent grazing, and these two factors have had a very telling influence on the question of feed for stock for the winter. Many farmers find themselves short of hay, which may be quite serious unless spring opens up early. At the Station, six heifers, including four yearlings and two calves, are being wintered in an open corral. They are being fed hay, straw and chopped grain, and, despite the extreme temperature, are growing and looking thrifty. The gross returns from a flock of 115 sheep for the past year have been very close to \$1,100 and the flock is as large as and of better quality than a year ago."

Scott, Sask.—M. J. Tinline, Acting Superintendent, reports:—"All through December it has been unusually cold, with only two days in the month when the thermometer did not register below zero, while on sixteen days the maximum reading was below zero. Some snow has fallen, but not sufficient to make good sleighing."

The extremely severe spell has increased the demand for fuel, and there is a possibility of a coal famine if the present weather continues throughout the greater part of the winter. A car of feed grain and some hay have been purchased and hauled to the Station."

Lacombe, Alberta.—G. H. Hutton, Superintendent, reports:—"December has been cold and stormy. As a rule, low temperatures in this latitude are not accompanied by much wind, but this rule has not held for the past month, and, consequently, the frost has been much more penetrating than ordinarily. Live stock are requiring a more than usual amount of fodder and, even with the extra feed, it has been difficult to maintain them up to normal condition on account of the trying weather. The prices for live stock have been erratic throughout the month, but at the close of December the outlook for satisfactory returns from both beef cattle and hogs is good."

Lethbridge, Alberta.—W. H. Fairfield, Superintendent, reports:—"The weather during December has been very cold, the thermometer registering zero or below on nineteen different days. As the ground has been covered with snow during practically the entire month, range stock, especially sheep, have had a difficult time where not fed hay. Fortunately, on the 29th the weather moderated very materially, and, with a warm Chinook wind blowing continuously, the ground was pretty well cleared of snow by the 31st. The protracted spell of excessively cold weather has had a tendency to stiffen the price of hay, which was already higher than it has been at this season for a number of years. At the Station, the feeding tests with two carloads of steers and two carloads of wether lambs are nicely under way."

Invermere, B.C.—G. E. Parham, Superintendent, reports:—"Snow fell during December to a depth of 24.12 inches, exceeding the total for the whole of 1916 by three inches, and of 1915 by five inches. Each fall, however, was followed by higher temperatures, accompanied by Chinook winds, with the result that, at the end of the month, land in the more exposed parts of the valley is left with a covering of but two or three inches. It is observed that the benches and higher lands in the district still retain a large proportion of the snowfall, no doubt owing to the Chinook winds failing to reach them. The mean temperature is above the average. Cattle were able to remain on the range pastures until the 15th. In spite of the natural grass on these pastures being somewhat shorter than usual, the quality is excellent, and range horses appear to be entering the winter in good shape. At the Experimental Station, clearing is being continued on the bench lands which were added to the farm in the spring. In the poultry department, forty of the young turkeys were fattened and killed for the Christmas trade, and these were of fine quality, realizing from 30 to 35 cents per lb., dressed; the remaining hens were retained to fill orders for stock purposes."

Summerland, B.C.—R. H. Helmer, Superintendent, reports:—"December came in fairly mild, with a fall of six inches of snow from the 1st to the 6th, and gradually got colder till the thermometer

dropped to 2 on the 24th, after which the south wind started up and it became much milder with more snow. Nearly all of the 32.25 inches of snow which fell during the month, has gone, and, as there was no frost in the ground, it has absorbed the moisture. Considerable ploughing has been accomplished during the month, which will help the spring work. The land previous to the snow was too dry to plough. Roads have been very heavy for hauling. There is a shortage of hay in the district and it is now selling at \$28 per ton, baled. The cattle being fed at the Station are making satisfactory gains, the roots and hay being of very good quality."

Agassiz, B.C.—W. H. Hicks in charge, reports:—"December has been very dull and cloudy, with only 15.7 hours of bright sunshine. A temperature of 15 was recorded on the 27th, being the lowest during the month. Thirty-two inches of snow fell, making, with the rain, a total precipitation of 15.81 inches. On the 13th and 14th of the month, a very severe ice storm occurred, which put all telephone and telegraph wires out of commission for some time. A large number of trees were badly damaged, and the financial loss to owners of fruit trees has been very great. A fortnight later, there occurred a somewhat similar storm, which did even more damage and is reported as the worst for the past twenty-five years. The local markets for farm produce have been satisfactory. There is a big demand for breeding sows, which it is going to be difficult to fill. High water has reached a number of potato pits in the district, resulting in the loss of the contents."

Sidney, Vancouver Island, B.C.—Lionel Stevenson, Superintendent, reports: "The lowest temperature recorded during December is 26.5. The precipitation has been excessive, 9.21 inches, the heaviest December rainfall on record for the district. Considerable ploughing and some road repair work and manure hauling have been done during the month. Some apple packing and shipping has been attended to by those orchardists having storage. At the Experimental Station, the borders and shrubberies have been pruned and dug, and cuttings prepared for distribution. Some building has been accomplished. The Station seed exhibit was sent to New Westminster and Armstrong for demonstration at the Provincial Seed Fairs. The poultry did not produce as high an egg average as for the corresponding period of 1916. The live stock of the district are in good condition. Pigs are more numerous and popular than for some years past. Feed prices are high."

Meteorological Record for December, 1917.

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of December are given in the following table:—

Experimental Farm or Station at—	Degrees of Temperature, F.			Precipitation in inches.	Hours of Sunshine.	
	High-est.	Low-est.	Mean.		Pos-sible.	Actual.
Ottawa, Ont.....	37.8	—30.8	6.83	2.96	272	127.6
Charlottetown, P.E.I.....	45.0	— 7.0	19.79	5.65	269	46.2
Kentville, N.S.....	51.0	— 7.0	19.66	4.49	274	33.5
Nappan, N.S.....	49.0	—16.0	15.64	4.40	271	64.3
Fredericton, N.B.....	37.0	—27.5	9.80	1.21	270	83.2
Ste. Anne de la Pocatière, Que.....	36.6	—26.6	—14.20	1.34	264	91.6
Cap Rouge, Que.....	38.0	—34.7	8.36	3.22	264	54.9
Lennoxville, Que.....	40.0	—45.0	5.74	2.55	272	68.1
Brandon, Man.....	34.9	—40.0	—6.30	0.40	254	86.2
Indian Head, Sask.....	35.0	—39.0	—9.16	1.00	248	35.7
Rosthern, Sask.....	18.7	—51.3	—14.50	2.20	233	64.5
Scott, Sask.....	27.8	—43.8	—11.80	0.55	238	67.8
Lacombe, Alberta.....	48.0	—42.1	—3.21	1.30	238	53.8
Lethbridge, Alberta.....	55.0	—31.5	8.60	1.13	254	62.5
Invermere, B.C.....	44.0	—15.0	15.50	2.48	251	38.2
Summerland, B.C.....	53.0	2.0	28.95	3.22	253	20.6
Agassiz, B.C.....	59.0	15.0	35.73	14.81	256	15.7
Sidney, Vancouver I., B.C.....	57.0	26.5	39.79	9.21	259	31.4

Ottawa, January 18, 1918.

J. H. GRISDALE,
Director Dominion Experimental Farms.

CROP REPORTS FROM OTHER COUNTRIES.

England and Wales.—The Board of Agriculture reports (January 1) that December proved, on the whole, very favourable for field work, being generally dry with light frosts until towards the latter half of the month, when frost and snow caused some delays, which were most severely felt in the southeast. Good progress was accordingly made everywhere, and in the chief grain-growing districts of the east work is at least as forward as usual, if not more so. Nearly four-fifths of the area intended for wheat have already been sown, whereas at the same time last year only some two-thirds of the wheat area had been got in; and the total area actually under wheat at the end of 1917 was fully 15 per cent greater than a year ago. The young crop everywhere looks promising, although that sown late has received some check from the frosts. Of other autumn-sown crops the area under barley and oats is about the same as at this time last year, that under rye is a little greater, and the bean area smaller. All these autumn crops are generally satisfactory. Seeds are, in practically all districts with the exception of the eastern counties, where they are rather patchy, a strong and healthy plant. Swedes are of good quality nearly everywhere, and this applies to turnips in some districts, but in others they are poor. Reports on ewes are satisfactory, and they are in good condition. Other live stock are also healthy. In the eastern counties home-grown winter keep is rather scarce, but elsewhere the supplies are generally expected to be quite sufficient. There has in most districts been sufficient labour for farmers to manage, with the assistance of soldiers and women; but skilled help is still scarce.

India.—The Department of Statistics issued (October 19) the first rice forecast, which shows that the total area sown to rice in India for the season of 1917-18 is 75,299,000 acres, as compared with 79,616,000 acres in 1916-17, a decrease of 5.4 p.c.

Brazil.—According to "El Resumen" published at Buenos Aires, November 3, 1917, a new census of live stock in Brazil for the year 1916 shows the following results, as compared with the numbers for 1912 placed within brackets: Cattle 28,962,180 (30,705,400), horses 6,055,230 (7,289,690), mules and asses 3,221,910 (3,234,880), goats 6,919,550 (10,048,570), sheep 7,204,920 (10,594,930), swine 17,320,210 (18,400,530).

INTERNATIONAL INSTITUTE OF AGRICULTURE.

The December number of the Monthly Bulletin of Agricultural and Commercial Statistics, published by the International Institute of Agriculture, gives returns from several countries not included in the tabular statement of last month. These are Denmark for wheat, rye, barley and oats; Japan for rice, corn and potatoes, and Egypt for rice. The returns from these countries are as follows:

Country and Crop.	1916.	1917.	Average 1911-15.	1916.	1917.	Average 1911-15.
	000 acres.	000 acres.	000 acres.	000 bush.	000 bush.	000 bush.
Denmark—						
Wheat.....	152	131	133	6,045	4,299	6,238
Rye.....	481	436	605	10,801	8,858	15,107
Barley.....	633	594	602	24,477	17,865	25,570
Oats.....	1,042	981	1,039	48,618	35,469	49,719
Japan—						
Corn.....	157	142	140	4,100	3,705	3,551
Rice.....	7,543	7,611	7,399	499,475	383,634	488,791
Potatoes.....	231	246	188	39,006	36,924	27,416
Egypt—						
Rice.....	150	267	218	12,673	17,368	17,030

The percentage differences between the areas and yields in the above tables for 1917 as compared with 1916 and with the average for the five years 1911-15 are as follows:

Country and Crop.	Area.		Yield.	
	Per cent of 1916.	Per cent of average 1911-15.	Per cent of 1916.	Per cent of average 1911-15.
Denmark—				
Wheat.....	86.4	98.6	71.1	68.9
Rye.....	90.6	72.1	82.0	58.6
Barley.....	93.8	98.6	73.0	69.9
Oats.....	94.2	94.4	73.0	71.3
Japan—				
Corn.....	90.5	101.7	90.3	104.3
Rice.....	100.9	102.9	76.8	78.5
Potatoes.....	106.2	130.7	94.7	134.7
Egypt—				
Rice.....	177.3	122.2	137.0	102.0

It will be seen therefore that for all four crops in Denmark, both areas and yields are considerably below both 1916 and the five year average. The corn crop in Japan is nearly 10 p.c. below that of 1916 both in area and yield, but is slightly above the average. The yield of the Japanese rice crop is considerably inferior to that of 1916 and to that of the average, although the usual acreage was planted. The Egyptian rice crop on the other hand is 37 p.c. above that of 1916 and 2 p.c. above the average in yield, whilst the acreage planted was 77·3 p.c. above that of 1916 and 22·2 p.c. above average. Potatoes in Japan show an increased acreage and an increased yield as compared with the average. As compared with 1916, however, the yield is 5·3 p.c. less.

The provisional estimate of the yield in 1917 of flaxseed in five countries (British India, Italy, Holland, Canada and the United States) is 36,661,790 bushels as compared with 42,350,199 bushels in 1916, a decrease of 13·4 p.c. Of sugar beet, the yield for 1917 in five countries (Holland, Sweden, Switzerland, Canada and the United States) is provisionally estimated at 8,991,296 short tons, as compared with 9,699,525 short tons in 1916, a decrease of 7·3 p.c.

A cablegram received from the Institute on January 24, 1918, gave the following data as to the production of wheat and oats in countries of the southern hemisphere for the season of 1917-18:—

Crop and Country.	Production 1917-18.	Increase over crop of 1916-17.		Increase over average crop of five years 1911-12-1915-16.	
		bush.	p.c.	bush.	p.c.
Wheat—					
Uruguay.....	18,372,000	12,980,000	240·8	11,660,000	173·6
Union of S. Africa.....	8,833,000	4,050,000	84·4	2,320,000	35·5
New Zealand.....	8,000,000	3,000,000	60·0	1,600,000	25·0
Oats—					
New Zealand.....	21,138,000	14,870,000	237·0	5,710,000	37·0

The total production of cotton in the United States, India and Egypt is 15,355,000 bales of 500 lb., or 5·5 p.c. less than last year and 18·3 p.c. less than the five years' average. The total production of wine in Spain, France, Luxemburg and Algeria is 1,448,209,000 imperial gallons, or 0·3 p.c. more than last year and 3·6 p.c. less than the five years' average.

Butter and Cheese in South Africa.—According to the “Documentary Leaflets” of December 15, 1917, issued by the Institute, the production of butter and cheese in the Union of South Africa for the years 1913 to 1915 was as follows:—

Product.	1913.	1914.	1915.
	lb.	lb.	lb.
Butter.....	10,740,937	10,681,936	13,407,062
Cheese.....	520,846	605,682	1,098,777

The production of both butter and cheese is making satisfactory progress, and it is expected that the available supply will suffice shortly to maintain a steady export trade. Small test shipments have established the fact that the creamery butter is favourably regarded on the English market. Very high prices, ranging from 1s. 1d. to 1s. 10d. per lb. were paid for butter during the past season.

VALUE OF FARM PRODUCTS IN THE UNITED STATES.

According to a table in the U.S. Monthly Crop Report of January, 1918, the preliminary estimate of the total value of the farm products of the United States in 1917, based on prices at the farm, is \$19,-443,849,381, as compared with \$13,406,364,011 in 1916, \$10,775,490,412 in 1915 and \$9,894,900,531 in 1914. For 1917 the total is composed of \$13,610,462,782, or 70 p.c., crops and \$5,833,386,599, or 30 p.c., animals and animal products. Apparently therefore the farm products of the United States, owing to the general rise in prices, have nearly doubled in value since 1914, the ratio of increase being about 97 p.c. The total values in the table are described as "gross" and "to be read as index numbers." This means that the figures do not claim to represent exactly the value of the farm products of the United States; but that, as the calculation is made upon the same basis each year, the figures are of comparative rather than absolute value. In fact, it is practically impossible, in the case of agricultural products, to ascertain their net annual value, because the values of the products reappear in different forms during the same year and cannot be separately distinguished. For instance, fodder crops are valued as such; but they are used for the feeding of live stock and therefore come again into the total valuation. It is also impossible in itself to ascertain exactly the annual value of animals and of animal products.

COMPARISON OF THE VALUES AND QUANTITIES OF CANADIAN AGRICULTURAL EXPORTS, 1916 AND 1917.

Owing to the great increase in the prices of agricultural commodities during the past three years of war, it is not easy to compare the trade of one year with that of another unless due attention is paid to quantities as well as values. It is evident that if attention be limited to values without regard to quantities we are apt to be misled regarding the actual volume of trade. In any event it is useful to know to what extent the trade difference between two successive years may be due to increase or decrease of price and to what extent it may be influenced by increase or decrease of quantity. In the accompanying table the exports of Canadian agricultural and animal products for the two years ended March 31, 1916 and 1917, are compared as to value and quantity. The table gives in columns 1 and 3 the value of the agricultural exports of Canada by principal items for the years 1917 and 1916, and in column 2 the value of the exports of 1917 at the average prices of 1916. In columns 4 and 5 the actual increase or decrease as

[Continued on p. 30.]

Exports of Agricultural and Animal Products, compared as to Quantity and Value, 1916 and 1917 ('000' omitted)—con.

Description of Exports.	Actual Value 1917.		Value at Prices of 1916.		Actual Value 1916.		Increase (+) or Decrease (-).		Due to higher (+) or lower (-) prices.		Due to larger (+) or smaller (-) quantities.	
	1	2	3	4	5	6	7	8	9	10	11	12
	\$	\$	\$	\$	p.c.	\$	p.c.	\$	p.c.	\$	p.c.	
Animals—												
Horses.....	4,385	4,431	4,700	315	6.7	46	1.0	209	5.7	—	—	
Cattle.....	7,594	7,594	12,625	4,742	37.6	289	3.8	5,031	39.8	—	—	
Sheep.....	495	376	593	98	16.5	119	31.6	217	36.6	—	—	
Swine.....	33	10	71	38	53.5	23	230.0	61	85.9	—	—	
Other.....	493	478	403	90	22.3	15	3.1	75	18.6	—	—	
Bones.....	124	104	90	34	37.8	20	19.2	14	15.6	—	—	
Butter.....	2,492	2,393	1,019	1,473	144.5	99	4.1	1,374	134.9	—	—	
Cheese.....	36,721	28,550	26,690	10,031	37.6	8,171	28.6	1,860	7.0	—	—	
Cream, fresh.....	778	720	1,122	354	31.3	58	8.0	412	36.4	—	—	
Milk, fresh.....	130	113	59	71	120.3	17	15.0	54	91.5	—	—	
Cream and milk, condensed, etc.....	1,371	922	771	600	77.8	449	48.7	151	19.6	—	—	
Eggs.....	1,810	1,487	2,273	463	20.4	323	21.7	785	34.6	—	—	
Grease and grease scraps.....	55	50	92	37	40.2	5	10.0	42	45.6	—	—	
Lard.....	285	167	3	282	9,400.0	118	70.6	164	5,466.6	—	—	
Meats—												
Bacon.....	43,011	36,762	25,711	17,300	67.3	6,249	17.0	11,051	43.0	—	—	
Beef.....	5,750	5,757	5,994	244	4.1	7	0.1	237	4.0	—	—	
Hams.....	766	695	1,379	613	44.5	71	10.2	684	49.6	—	—	
Mutton.....	27	24	14	13	92.8	3	12.5	10	71.4	—	—	
Pork.....	2,523	2,119	1,991	532	26.7	404	19.1	128	6.4	—	—	
Tongues.....	46	35	59	13	22.0	11	31.4	24	40.7	—	—	
Canned.....	1,718	1,652	2,731	1,013	37.1	66	4.0	1,079	39.5	—	—	
Other.....	306	261	317	11	3.5	45	17.2	56	17.7	—	—	
Oil, Neat's foot and other animal.....	192	162	240	48	20.0	30	18.5	78	32.5	—	—	
Tallow.....	5	8	72	67	93.0	3	37.5	64	88.8	—	—	
Wool.....	2,855	1,923	1,498	1,057	70.6	632	32.8	425	28.3	—	—	
Other animal products.....	13,851	11,757	12,355	1,486	12.0	2,084	17.7	598	4.8	—	—	
Total animal products.....	127,795	108,550	102,882	24,913	24.2	19,245	17.7	5,668	5.5	+	+	
Total agricultural products.....	373,414	324,560	249,661	123,753	49.5	48,834	15.0	74,919	30.0	+	+	
Grand total.....	501,209	433,130	352,543	148,666	42.2	68,079	15.7	80,587	22.9	+	+	

[Continued from p. 27.]

between 1916 and 1917 is shown in absolute and percentage figures; in columns 6 and 7 are given the results of calculations showing the increases or decreases in 1917 as compared with 1916 which are due to higher or lower prices and in columns 8 and 9 the increases or decreases in the same period which are due to the export of larger or smaller quantities.

Thus, we find from the table that the total value of Canadian exports of agricultural and animal products was \$501,209,000 in 1917 as compared with \$352,543,000, an increase of \$148,666,000, or 42.2 p.c. in the year. Of this increase \$68,079,000, or 15.7 p.c., was caused by higher prices and \$80,587,000, or 22.9 p.c., was due to larger quantities. If the prices for 1917 had remained as they were in 1916 the value of the total agricultural exports of 1916 would have been \$433,130,000 instead of \$501,209,000.

Taking separately some of the leading exports, we find that for wheat,—the value of the exports of which was \$244,394,000 in 1917 as against \$172,896,000 in 1916—the increase of \$71,498,000 was due to higher prices in respect of \$36,535,000 or 17.6 p.c., and to larger quantities in respect of \$34,963,000 or 20.2 p.c. Here the difference in total value is nearly equally divided between increase of price and increase of quantity. In the case of oats there is a substantial increase of \$19,280,000, or 131.7 p.c.; but the net increase is due to the larger quantities exported representing \$21,591,000, or 147.5 p.c., against which has to be set a relatively small decrease in value of \$2,311,000, or 6.4 p.c. due to lower prices. The same process of comparison is applied in the table to a large number of different items.

THE WEATHER DURING DECEMBER.

The Dominion Meteorological Service reports that over the far northwestern portions of the Dominion, in Yukon and northern Alberta, the past month was the coldest December ever recorded since regular observations have been taken, and from Saskatchewan eastward over Manitoba, Ontario and Quebec, and into the western parts of the Maritime provinces, there have been but some two or three colder. In Dawson, Yukon, the mean temperature for the month was 52° below zero, about 42° below average. In Alberta the negative departure ranged from 15° below average at Calgary to 25° below at Edmonton. In Saskatchewan the negative departure was about 18°, in Manitoba from 11° to 16°, in Ontario and Quebec from 7° to 13° below, and in the Maritime Provinces it ranged between 7° below in western districts to only 1° below in Cape Breton. Westward from southern Alberta to Vancouver Island the negative departure gradually lessened, until at the coast the mean was but 1° below normal. The great cold set in over Yukon during the first few days of the month, and soon spread into the western provinces, and then eastward, lasting with few intermissions throughout the month. In Ontario and Quebec there were not over six days when the daily mean was average or above. Precipitation was excessive in British Columbia, and on the Lower Mainland was mostly rain, but on the

Upper Mainland there were many snowfalls. In the western provinces the snowfall was very generally in excess of average, but nowhere heavy. In Ontario and Quebec there were a few days of rain and many of snow, which on two occasions was very heavy. In the Maritime Provinces there were two heavy rainfalls and many days with moderate snowfalls.

PRICES OF AGRICULTURAL PRODUCE, 1917.

EXPLANATORY NOTES.—(1) The weekly range of prices of Canadian grain at Winnipeg and Fort William (Table I) is furnished by the Board of Grain Commissioners for Canada and covers the weeks ended Saturday. (2) The monthly range of prices of grain at selected markets in the United States (Table II) is taken from the Monthly Crop Report of the U.S. Department of Agriculture. (3) The prices of imported grain and flour at British markets (Table III) are taken from the Market Supplements of the "Mark Lane Express" for London, and represent the range of the weekly Monday market; for Liverpool the prices are taken from "Broomhall's Corn Trade News," and represent the range for cash on Tuesday of each week. (4) The rate employed for conversion from English to Canadian currency is \$4.86½ to the £ sterling. For grain the British measures have been converted to Canadian measures of the legal weights per bushel, viz., 60 lb. wheat, 48 lb. barley, 34 lb. oats, and for other produce from long cwt. of 112 lb. to short cwt. of 100 lb.

I. Weekly Range of Prices per bushel of Canadian Grain at Winnipeg and Fort William, 1917.

Grain and Grade.	Dec. 8.		Dec. 15.		Dec. 22.		Dec. 29.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—								
No. 1 Nor.....	2 21	—	2 21	—	2 21	—	2 21	—
No. 2 Nor.....	2 18	—	2 18	—	2 18	—	2 18	—
No. 3 Nor.....	2 15	—	2 15	—	2 15	—	2 15	—
No. 4.....	2 08	—	2 08	—	2 08	—	2 08	—
No. 5.....	1 96	—	1 96	—	1 96	—	1 96	—
No. 6.....	1 87	—	1 87	—	1 87	—	1 87	—
Feed.....	1 71	—1 73½	1 73	—	1 70	—1 73	1 70	—
Oats—								
No. 2 C.W.....	0 80½—0 83½		0 79½—0 82½		0 79½—0 81½		0 83½—0 85½	
No. 3 C.W.....	0 77½—0 80½		0 76½—0 79½		0 76½—0 78½		0 79—0 81½	
No. 1 feed ex.....	0 77½—0 80½		0 76½—0 79½		0 76½—0 78½		0 79—0 81½	
No. 1 feed.....	0 72½—0 76		0 73½—0 75½		0 73½—0 75½		0 76—0 78½	
No. 2 feed.....	0 69½—0 73		0 70½—0 72½		0 70½—0 72½		0 73—0 75½	
Barley—								
No. 3 C.W.....	1 23 —1 27½		1 28 —1 32		1 32½—1 35½		1 37½—1 38	
No. 4 C.W.....	1 18 —1 22½		1 23 —1 27		1 27½—1 30½		1 32½—1 33	
Rejected.....	1 08 —1 12		1 12 —1 14		1 14 —1 16		1 17 —	
Feed.....	1 08 —1 12		1 12 —1 14		1 14 —1 16		1 17 —	
Flax—								
No. 1 N.W.C.....	2 99 —3 04½		2 95½—3 06½		3 04½—3 12		3 09 —3 18	
No. 2 C.W.....	2 92½—2 98		2 90½—3 01½		3 00 —3 07		3 06 —3 16	
No. 3 C.W.....	2 75 —2 79½		2 73½—2 84½		2 83 —2 90		2 89 —2 98	

II. Monthly Range of Prices per bushel of Grain at Selected Markets in the United States, 1917.

Grade and Market.	September.		October.		November.		December.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat, Red Winter, No. 2—								
St. Louis.....	2 15	—2 27	2 15	—	2 15	—	2 15	—
Chicago.....	2 17	—2 20	2 17	—	2 17	—	2 17	—
New York (f.o.b. afloat).....	2 28	—	2 25	—	2 25	—	2 26	—
Corn, No. 2 mixed—								
St. Louis.....	1 90	—2 22	1 90	—2 02	1 95	—1 97	1 75	—
New York (f.o.b. afloat).....	2 05	—2 32	2 03	—2 19	2 16	—	—	—
Corn No. 2—								
Chicago.....	1 95	—2 24	1 89	—2 15½	2 16	—2 22	1 80	—1 85
Oats No. 2—								
St. Louis.....	0 56½	—0 63	0 57	—0 60½	0 58½	—0 59½	0 80	—
Chicago.....	0 56½	—0 61½	0 58½	—0 60½	0 58½	—0 60½	0 78½	—0 79
Rye, No. 2—								
Chicago.....	1 79	—1 92	1 78	—1 90½	1 76	—1 77½	1 82	—1 84

III. Range of Prices of Imported Grain and Flour at British Markets, 1917.

MARK LANE, LONDON, E.C.

Description.	Dec. 3.		Dec. 10.		Dec. 17.		Dec. 24.		Dec. 31.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat (per bush.)—										
Canadian No. 1.....	2 34½	—	2 34½	—	2 34½	—	2 34½	—	2 34½	—
“ No. 2.....	2 30½	—	2 30½	—	2 30½	—	2 30½	—	2 30½	—
“ No. 3.....	2 25½	—	2 25½	—	2 25½	—	2 25½	—	2 25½	—
“ No. 4.....	—	—	2 20½	—	2 20½	—	2 20½	—	2 20½	—
“ No. 5.....	—	—	—	—	2 14½	—	2 14½	—	2 14½	—
“ No. 6.....	—	—	—	—	2 06½	—	2 06½	—	2 06½	—
American—										
Spring.....	2 29½	—2 32½	2 29½	—2 32½	2 29½	—2 32½	2 29½	—2 32½	2 29½	—2 32½
Hard Winter.....	2 29½	—2 32½	2 29½	—2 32½	2 29½	—2 32½	2 29½	—2 32½	2 29½	—2 32½
Red Winter.....	2 20½	—2 26½	2 23½	—2 26½	2 23½	—2 26½	2 23½	—2 26½	2 23½	—2 26½
Australian.....	2 39½	—2 41½	2 41½	—2 44½	2 41½	—2 44½	2 41½	—2 44½	2 41½	—2 44½
Indian—										
White.....	2 41½	—2 42½	2 41½	—2 44½	2 41½	—2 44½	2 41½	—2 44½	2 41½	—2 44½
Red.....	2 39½	—2 41½	2 38½	—2 41½	2 38½	—2 41½	2 38½	—2 41½	2 38½	—2 41½
Californian.....	2 38½	—2 39	2 35½	—2 41½	2 35½	—2 41½	2 38½	—2 41½	2 38½	—2 41½
Argentine.....	2 35½	—2 38½	2 35½	—2 38½	2 35½	—2 38½	2 35½	—2 38½	2 35½	—2 38½
Oats (per bush.)—										
Canadian.....	1 68	—1 70½	1 65½	—1 68	1 65½	—1 68	1 65½	—1 68	1 65½	—1 68
American.....	1 57½	—1 60½	1 57½	—1 60½	1 57½	—1 60½	1 57½	—1 60½	1 57½	—1 60½
Chilian.....	1 70½	—1 81	1 70½	—1 81	1 70½	—1 81	1 70½	—1 81	1 70½	—1 81
Flour (per 280 lb.)—										
Canadian.....	12 41	—12 65	12 21	—12 59	12 21	—12 59	12 21	—12 59	12 21	—12 59
American.....	—	—	12 21	—12 59	12 21	—12 53	12 21	—12 53	12 21	—12 59
Australian.....	19 95	—20 07	19 95	—20 07	19 95	—20 07	19 95	—20 07	19 95	—20 07
Japanese.....	18 49	—18 61	18 49	—18 61	18 49	—18 67	—	—	—	—

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duction. Tables I-XX, pp. i-xvi, 1-432.

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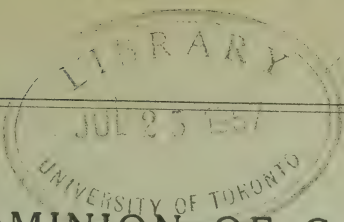
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MONTHLY BULLETIN OF AGRICULTURAL STATISTICS, Vols. 10 and 11, Nos. 104-113, 1917-18.

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DEPARTMENT OF TRADE AND COMMERCE

CENSUS AND STATISTICS OFFICE

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OF

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February, 1918.

Published by Authority of the Right Hon. Sir George E. Foster,
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Printer to the King's Most Excellent Majesty

1918

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No 114

DOMINION STATISTICIAN AND CONTROLLER OF CENSUS: R. H. COATS, B.A., F.S.S.
EDITOR: ERNEST H. GODFREY, F.S.S. CENSUS AND STATISTICS OFFICE,
DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

AGRICULTURAL VALUES IN CANADA, 1917.

Compiled from Returns of Correspondents, January 31, 1918.

The Census and Statistics Office publishes in this report its annual estimates of farm values in 1917, as compiled from the returns of correspondents at the end of January, 1918. The estimates comprise (1) the average values of farm land; (2) the average wages paid for farm help and (3) the average values of farm live stock and of wool.

AVERAGE VALUES OF FARM LAND.

According to the returns received, the average value of farm land for the whole of Canada, including land improved and unimproved, together with dwelling houses, barns, stables and other farm buildings, is approximately \$44 per acre, as compared with \$41 in 1916. The average values by provinces are as follows: Prince Edward Island, \$43·7; Nova Scotia, \$33·6; New Brunswick, \$28·8; Quebec, \$53; Ontario, \$55·3; Manitoba, \$31; Saskatchewan, \$26; Alberta, \$26·7; British Columbia, \$149. In the last named province the higher average is due to orcharding and fruit growing.

AVERAGE WAGES OF FARM HELP.

The average wages paid for farm help during the year 1917 have increased substantially since 1916 and have again reached the highest level on record. In many cases they are double what they were before the war. For the whole of Canada, the wages per month of farm help during the summer, including board, average \$63.63 for male and \$34.31 for female help, as compared with \$43.23 and \$22.46 in 1916. For the year 1917, including board, the wages averaged \$610.60 for males and \$364 for females, as compared with \$397 and \$228 in 1916. The average value of board per month is returned as \$19.44 for males and \$14.79 for females, as compared with \$17 for males and \$13 for females in 1916. By provinces, the average wages per month for males and females respectively, in the summer season, including board, were as follows: Prince Edward Island, \$39.74 and \$22.63; Nova Scotia, \$53.75 and \$26.43; New Brunswick, \$57.19 and \$28.14; Quebec, \$59.09 and \$28.98; Ontario, \$59 and \$31.96; Manitoba, \$67.97 and \$40.28; Saskatchewan, \$73.21 and \$41.09; Alberta, \$76.09 and \$44.44; British Columbia, \$78.12 and \$48.30.

AVERAGE VALUES OF FARM LIVE STOCK AND OF WOOL.

On the whole, there is but little change reported in the value per head of horses; in some of the provinces the value has remained stationary or has even declined. For cattle, sheep and swine, however, values are substantially higher than last year and are higher than in any previous year for which records have been collected. For Canada, the average value of horses, three years old and over, is \$167 as compared with \$160 in 1916, milch cows are \$84 as against \$70; cattle between one year old and three years average \$52 against \$43; sheep are \$14.93 against \$10.48 last year and swine are \$17.33 against \$11.98 per live cwt. The average value of wool is 59 cents per lb. unwashed and 75 cents per lb. washed. Correspondents were requested to ascertain as nearly as possible the average value per head of each description of farm animal, and for calculation of total values these averages have been applied to the total number of farm animals as returned in June last. The results are as follows: Horses \$429,123,000, as compared with \$418,686,000 in 1916; milch cows \$274,081,000, as against \$198,896,000, other cattle \$270,595,000, as against \$204,477,000, sheep \$35,576,000, as against \$20,927,000 and swine \$92,886,000, as against \$60,700,000. The total value of farm live stock in Canada is estimated to be \$1,102,261,000, as compared with \$903,686,000, the estimate for 1916 as finally revised by the census returns for the Prairie Provinces. In 1917, for the first time, the total value of farm live stock exceeds one billion dollars.

Census and Statistics Office,
Ottawa, February 27, 1918.

ERNEST H. GODFREY,
Editor.

I. Average Values per acre of Occupied Farm Lands in Canada, as estimated by Correspondents, 1908-1910, 1914-17.

Provinces.	1908.	1909.	1910.	1914.	1915.	1916.	1917.
	\$	\$	\$	\$	\$	\$	\$
Canada.....	35.70	38.60	38.45	38.41	39.70	40.95	43.92
Prince Edward Island.....	33.70	32.07	31.24	38.65	37.64	39.13	43.70
Nova Scotia.....	25.00	30.50	24.72	27.99	28.00	33.67	33.69
New Brunswick.....	21.40	23.77	18.50	25.61	22.48	29.45	28.82
Quebec.....	41.90	43.37	42.50	47.00	51.36	52.13	52.93
Ontario.....	47.30	50.22	48.00	54.45	52.49	52.59	55.31
Manitoba.....	27.30	28.94	28.67	31.67	30.36	32.03	31.08
Saskatchewan.....	20.40	21.54	22.00	23.82	24.20	23.07	26.22
Alberta.....	18.20	20.46	24.00	21.03	23.15	22.18	26.69
British Columbia.....	76.10	73.44	74.00	150.00	125.00	118.51	149.05

II. Average Wages of Farm Help in Canada, as estimated by Correspondents, 1909, 1910, 1914-17.

Provinces.		Per month in summer season, including board.		Per year, including board.		Average value of board per month.	
		Males.	Fe- males.	Males.	Fe- males.	Males.	Fe- males.
		\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Canada.....	1909..	33 69	19 08	336 29	206 08	10 00	8 00
	1910..	35 15	20 70	347 70	209 69	12 49	9 56
	1914..	35 55	18 81	323 30	189 35	14 27	11 24
	1915..	37 10	20 20	341 00	200 00	14 57	11 45
	1916..	43 23	22 46	396 88	227 86	16 90	13 06
	1917..	63 63	34 31	610 60	364 00	19 44	14 79
P. E. Island.....	1909..	25 27	13 87	226 47	144 27	8 00	6 00
	1910..	26 60	15 00	244 89	149 25	10 15	7 60
	1914..	24 71	13 48	220 93	135 89	10 12	7 62
	1915..	26 67	14 59	237 52	136 80	10 28	9 44
	1916..	31 35	17 81	301 35	166 79	12 63	9 22
	1917..	39 74	22 63	407 47	253 66	13 50	10 49
Nova Scotia.....	1909..	31 20	15 00	310 85	165 13	10 00	7 00
	1910..	33 70	16 90	321 30	175 60	11 50	7 90
	1914..	31 20	14 80	301 00	155 47	11 48	8 11
	1915..	32 95	15 85	309 78	168 81	11 66	8 36
	1916..	38 77	19 11	364 91	194 88	15 84	11 29
	1917..	53 75	26 43	542 66	296 06	16 59	11 67
New Brunswick.....	1909..	32 59	16 02	239 55	172 13	10 00	8 00
	1910..	33 90	16 70	289 40	151 65	11 25	7 50
	1914..	31 93	15 10	301 55	164 79	11 23	7 76
	1915..	33 73	16 11	307 96	153 44	14 17	8 48
	1916..	35 74	16 66	328 02	163 91	13 58	9 61
	1917..	57 19	28 14	572 23	305 56	18 14	12 63
Quebec.....	1909..	33 33	16 75	330 97	176 89	10 00	8 00
	1910..	36 40	18 98	313 41	177 94	11 56	8 00
	1914..	33 56	15 65	296 35	152 38	13 29	9 37
	1915..	33 08	16 44	301 00	159 00	13 37	9 60
	1916..	40 79	19 70	370 92	195 79	15 77	10 95
	1917..	59 09	28 98	523 40	286 53	17 49	12 11
Ontario.....	1909..	31 52	18 22	331 56	203 37	10 00	8 00
	1910..	31 40	20 10	335 84	211 10	12 00	9 60
	1914..	32 09	16 67	297 29	172 00	13 09	10 43
	1915..	31 09	17 12	304 00	179 00	13 30	10 58
	1916..	39 41	20 58	360 43	205 81	16 43	12 59
	1917..	59 00	31 96	561 21	343 92	18 32	13 75
Manitoba.....	1909..	35 95	23 97	365 55	261 84	11 00	9 00
	1910..	40 00	25 00	400 00	282 00	14 70	11 30
	1914..	39 13	22 35	364 41	225 61	15 49	12 98
	1915..	45 18	27 29	390 47	244 79	15 21	12 75
	1916..	48 37	26 97	454 29	283 16	18 14	14 61
	1917..	67 97	40 28	689 31	451 64	20 63	17 14
Saskatchewan.....	1909..	38 30	24 23	389 90	263 86	16 00	10 00
	1910..	40 00	24 50	402 50	263 60	14 00	13 00
	1914..	40 51	22 96	365 90	234 93	16 50	13 96
	1915..	42 22	23 81	386 06	240 90	16 78	13 97
	1916..	48 55	25 66	433 58	278 10	18 19	15 33
	1917..	73 21	41 09	733 75	469 64	22 67	17 89

II. Average Wages of Farm Help in Canada as estimated by Correspondents, 1909, 1910, 1914-17—concluded.

Provinces.		Per month in summer season, including board.		Per year, including board.		Average value of board per month.	
		Males.	Fe-males.	Males.	Fe-males.	Males.	Fe-males.
		\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Alberta.....	1909..	40 08	26 16	421 62	285 12	15 00	12 00
	1910..	40 00	27 50	416 00	300 00	16 70	13 90
	1914..	40 26	23 63	364 80	236 32	16 36	13 91
	1915..	44 02	24 25	404 00	253 00	16 94	14 17
	1916..	52 28	29 12	501 27	299 21	19 52	16 39
	1917..	76 09	44 44	784 15	476 20	22 88	19 48
British Columbia.....	1909..	45 50	25 27	428 33	265 00	15 00	10 00
	1910..	57 40	38 00	—	—	20 00	17 00
	1914..	47 85	31 18	459 72	324 44	21 40	17 58
	1915..	49 37	31 21	463 04	286 68	19 15	16 00
	1916..	49 86	28 66	542 91	325 09	21 86	18 38
	1917..	78 12	48 30	803 05	481 42	24 94	20 65

III. Average Values of Farm Animals and of Wool, as estimated by Correspondents, 1909-10, 1914-17.

Provinces.	HORSES.				Milch cows	OTHER HORNED CATTLE.			Swine per 100 lb. live weight.	Sheep.	WOOL PER LB.	
	Under 1 year	1 year to under 3 years	3 years and over	Under 1 year		1 year to under 3 years	3 years and over	Un-washed			Washed	
	\$	\$	\$	\$	\$	\$	\$	\$ c.	\$ c.	\$ c.	\$ c.	
Canada.....	1909	49	106	150	36	10	23	33	7 90	5 89	0 17	0 24
	1910	54	119	171	42	12	26	39	7 85	6 30	0 18	0 24
	1914	55	114	165	57	16	37	54	7 24	7 07	0 19	0 26
	1915	54	111	160	62	17	38	55	8 58	7 96	0 28	0 38
	1916	54	109	160	70	20	43	63	11 98	10 48	0 37	0 50
	1917	57	116	167	84	24	52	77	17 33	14 93	0 59	0 75
P. E. Island.....	1909	34	87	126	31	8	19	28	7 33	4 55	0 16	0 22
	1910	44	102	140	32	8	19	28	6 70	5 82	0 17	0 24
	1914	46	95	143	39	11	23	35	7 14	6 05	0 21	0 27
	1915	42	92	136	42	11	25	37	8 02	6 97	0 32	0 40
	1916	37	76	112	52	14	31	46	12 27	9 13	0 37	0 47
	1917	41	79	118	63	17	37	54	17 28	13 74	0 60	0 76
Nova Scotia.....	1909	40	90	133	33	9	23	37	7 26	4 13	0 19	0 24
	1910	46	95	145	37	9	24	40	7 25	4 48	0 20	0 25
	1914	53	116	166	40	10	25	42	7 75	4 70	0 21	0 26
	1915	53	108	167	45	11	28	44	7 94	5 28	0 31	0 40
	1916	50	99	150	53	13	33	54	10 77	6 55	0 39	0 49
	1917	49	101	149	63	18	41	63	16 65	8 91	0 61	0 74
New Brunswick...	1909	40	90	137	29	8	18	28	7 36	4 22	0 18	0 24
	1910	50	112	157	33	8	19	31	7 05	4 60	0 18	0 23
	1914	54	123	183	40	11	24	39	8 16	4 63	0 22	0 28
	1915	59	127	182	40	11	25	37	8 17	5 25	0 30	0 40
	1916	55	113	169	48	13	28	44	11 63	6 49	0 36	0 48
	1917	54	118	165	63	16	37	55	16 23	9 92	0 59	0 74
Quebec.....	1909	41	98	145	33	8	19	29	9 62	5 47	0 21	0 29
	1910	46	103	155	39	9	21	32	8 78	5 72	0 21	0 29
	1914	49	107	164	47	11	27	41	8 91	6 60	0 23	0 30
	1915	48	104	159	51	12	28	42	9 81	7 48	0 33	0 43
	1916	49	105	155	62	16	35	52	14 28	10 73	0 44	0 58
	1917	53	117	171	81	19	43	67	19 60	15 00	0 65	0 83

III. Average Values of Farm Animals and of Wool, as estimated by Correspondents, 1909-10, 1914-17—concluded.

Provinces.	HORSES.			Milch cows	OTHER HORNED CATTLE.			Swine per 100 lb. live weight.	Sheep.	WOOL PER LB.		
	Under 1 year	1 year to under 3 years	3 years and over		Under 1 year	1 year to under 3 years	3 years and over			Un-washed	Washed	
	\$	\$	\$	\$	\$	\$	\$	\$ c.	\$ c.	\$ c.	\$ c.	
Ontario.....	1909	53	110	144	40	12	26	38	7 33	6 63	0 14	0 20
	1910	60	127	174	48	14	31	46	7 30	7 00	0 14	0 20
	1914	54	111	152	64	20	43	62	7 74	8 70	0 19	0 25
	1915	51	102	142	70	20	45	64	8 90	10 03	0 26	0 33
	1916	52	105	151	76	23	51	71	12 06	12 81	0 34	0 44
	1917	55	105	147	92	29	63	90	17 27	18 41	0 55	0 66
Manitoba.....	1909	63	132	187	34	10	21	30	7 00	7 08	0 09	0 14
	1910	68	146	207	40	11	24	36	6 50	6 50	0 10	0 13
	1914	61	126	176	62	17	38	56	6 28	8 76	0 14	0 18
	1915	63	124	178	65	18	41	60	7 75	8 56	0 21	0 29
	1916	61	123	171	74	21	47	67	10 83	11 57	0 31	0 37
	1917	63	127	178	88	27	55	83	16 43	16 08	0 51	0 55
Saskatchewan....	1909	56	123	180	38	11	25	40	6 86	7 01	0 10	0 13
	1910	50	137	200	41	12	27	40	7 50	7 00	0 09	0 14
	1914	63	133	187	66	18	41	61	5 74	7 08	0 15	0 20
	1915	64	132	180	69	20	44	62	8 26	7 97	0 20	0 24
	1916	65	133	188	73	22	47	67	10 20	9 94	0 28	0 33
	1917	69	137	194	85	27	58	83	15 42	14 16	0 50	0 54
Alberta.....	1909	47	97	150	35	11	23	33	7 20	6 80	0 12	0 18
	1910	51	108	164	39	12	25	38	7 60	6 30	0 11	0 18
	1914	45	91	137	66	21	42	61	5 99	6 96	0 14	0 18
	1915	47	97	142	69	22	45	64	7 70	7 57	0 23	0 25
	1916	51	102	151	77	27	51	73	11 04	9 82	0 28	0 37
	1917	55	109	161	89	33	62	87	15 74	14 62	0 51	0 55
British Columbia..	1909	44	111	165	51	12	26	38	7 50	6 72	0 10	0 15
	1910	63	144	225	57	13	28	43	—	—	0 10	0 15
	1914	46	93	162	89	22	48	73	8 00	8 33	0 15	0 16
	1915	42	93	136	91	21	48	67	9 09	7 86	0 19	0 20
	1916	48	87	144	90	24	48	72	12 89	10 67	0 29	0 45
	1917	50	101	155	103	29	62	89	17 02	13 68	0 46	0 52

IV. Numbers in June and Values in December of Farm Live Stock in Canada, as estimated by Correspondents, 1916 and 1917.

Farm Animals.	1916	1917	1916	1917	1916	1917
	No.	No.	\$ per head	\$ per head	\$	\$
Canada—						
Horses.....	3,258,342	3,412,749	128 50	125 75	418,686,000	429,123,000
Milch cows.....	2,833,433	3,202,283	70 25	85 50	198,896,000	274,081,000
Other cattle.....	3,760,718	4,718,657	54 25	57 25	204,477,000	270,595,000
Total cattle.....	6,594,151	7,920,940	61 25	68 75	403,373,000	544,676,000
Sheep.....	2,022,941	2,369,358	10 25	15 00	20,927,000	35,576,000
Swine.....	3,474,840	3,619,382	17 50	25 75	60,700,000	92,886,000
Prince Edward Is.—						
Horses.....	33,562	38,948	87 00	87 50	3,355,000	3,408,000
Milch cows.....	46,032	46,032	52 00	63 50	2,394,000	2,923,000
Other cattle.....	57,260	54,970	34 50	37 75	1,975,000	2,075,000
Total cattle.....	103,292	101,002	42 25	49 50	4,369,000	4,998,000
Sheep.....	88,797	90,573	9 00	13 75	799,000	1,245,000
Swine.....	38,300	35,236	20 00	27 00	766,000	947,000

IV. Numbers in June and Values in December of Farm Live Stock in Canada, as estimated by Correspondents, 1916 and 1917—continued.

Farm Animals.	1916	1917	1916	1917	1916	1917
	No.	No.	\$ per head	\$ per head	\$	\$
Nova Scotia—						
Horses.....	64,193	64,193	108 00	111 25	6,933,000	7,141,000
Milch cows.....	130,141	131,442	53 00	63 25	6,897,000	8,314,000
Other cattle.....	140,673	135,046	37 50	45 00	5,275,000	6,077,000
Total cattle.....	270,814	266,488	45 00	54 00	12,172,000	14,391,000
Sheep.....	200,979	200,979	6 50	9 00	1,306,000	1,809,000
Swine.....	51,928	49,850	18 00	28 75	935,000	1,433,000
New Brunswick—						
Horses.....	65,169	65,169	126 50	126 50	8,244,000	8,244,000
Milch cows.....	100,221	100,221	48 50	63 00	4,861,000	6,314,000
Other cattle.....	92,223	89,456	33 00	39 50	3,043,000	3,534,000
Total cattle.....	192,444	189,677	41 00	52 00	7,904,000	9,848,000
Sheep.....	105,997	103,877	6 50	10 00	689,000	1,039,000
Swine.....	70,683	69,269	17 00	26 75	1,202,000	1,853,000
Quebec—						
Horses.....	332,628	379,276	115 00	131 50	38,252,000	49,875,000
Milch cows.....	639,805	911,023	62 00	81 50	39,668,000	74,248,000
Other cattle.....	535,693	958,010	50 50	45 75	27,052,000	43,830,000
Total cattle.....	1,175,498	1,869,033	56 75	63 00	66,720,000	118,078,000
Sheep.....	497,711	849,148	10 50	15 00	5,226,000	12,737,000
Swine.....	531,303	712,087	17 00	28 50	9,032,000	20,294,000
Ontario—						
Horses.....	896,208	887,246	125 00	113 00	112,026,000	100,259,000
Milch cows.....	1,082,119	1,082,119	76 00	92 50	82,241,000	100,096,000
Other cattle.....	901,924	865,847	65 00	62 75	58,625,000	54,332,000
Total cattle.....	1,984,043	1,947,966	71 00	79 25	140,866,000	154,428,000
Sheep.....	589,581	595,477	12 50	18 50	7,370,000	11,016,000
Swine.....	1,404,618	1,236,064	18 00	25 25	25,283,000	31,211,000
Manitoba—						
Horses.....	324,175	324,175	128 00	137 50	41,494,000	44,574,000
Milch cows.....	196,288	202,177	73 50	88 25	14,427,000	17,842,000
Other cattle.....	357,870	357,870	51 00	57 25	18,251,000	20,488,000
Total cattle.....	554,158	560,047	59 00	68 50	32,675,000	38,330,000
Sheep.....	76,750	80,588	11 50	16 00	883,000	1,289,000
Swine.....	205,898	175,013	17 00	23 75	3,500,000	4,157,000
Saskatchewan—						
Horses.....	841,907	880,301	148 50	138 00	125,023,000	121,482,000
Milch cows.....	322,185	354,403	72 50	85 25	23,358,000	30,213,000
Other cattle.....	689,208	856,687	51 00	58 50	35,150,000	50,116,000
Total cattle.....	1,011,393	1,211,090	57 75	66 25	58,508,000	80,329,000
Sheep.....	124,237	127,892	10 00	14 25	1,242,000	1,822,000
Swine.....	530,727	573,938	17 00	25 25	9,022,000	14,492,000
Alberta—						
Horses.....	634,188	718,317	121 00	122 00	76,737,000	87,635,000
Milch cows.....	277,324	325,861	77 00	89 25	21,354,000	29,083,000
Other cattle.....	882,766	1,209,433	56 00	64 25	49,435,000	77,706,000
Total cattle.....	1,160,090	1,535,294	61 00	69 50	70,789,000	106,789,000
Sheep.....	292,620	276,966	10 00	14 50	2,926,000	4,016,000
Swine.....	603,554	730,237	17 00	24 25	10,260,000	17,708,000

IV. Numbers in June and Values in December of Farm Live Stock in Canada, as estimated by Correspondents, 1916 and 1917—concluded.

Farm Animals.	1916	1917	1916	1917	1916	1917
	No.	No.	\$ per head	\$ per head	\$	\$
British Columbia—						
Horses.....	61,312	55,124	108 00	118 00	6,622,000	6,505,000
Milch cows.....	39,318	49,005	94 00	103 00	3,696,000	5,048,000
Other cattle.....	103,101	191,338	55 00	65 00	5,671,000	12,437,000
Total cattle.....	142,419	240,343	65 75	72 75	9,367,000	17,485,000
Sheep.....	46,269	43,858	10 50	13 75	486,000	603,000
Swine.....	37,829	37,688	18 50	21 00	700,000	791,000

REPORTS FROM THE PROVINCES.

Prince Edward Island.—The demand for horses is feeble. Cattle, sheep and swine command high prices. Milch cows are selling at as high as \$100 each. Farm labour is scarce and wages are high. Much appreciation is expressed of the value of the wool grading stations established by the Department of Agriculture.

Nova Scotia.—Prices for milch cows range high. Cattle and swine bring good prices, but there is a scarcity of feed. Sheep are not raised extensively, and high prices are realized. There is little demand for horses. Labour is scarce and costly.

New Brunswick.—All live stock have increased in value, excepting horses, for which there is little demand. Scarcity of feed keeps prices at a maximum. Wool prices have advanced. Labour is almost unobtainable, and wages are high. Much of the land in this province is in timber, which brings high prices.

Quebec.—Farm help is very scarce, and wages are high throughout the province. One correspondent mentions that 500 acres of hay were left uncut for want of labour, and another states that land is only producing a third of its capacity from the same cause. The prices of cattle are high. Some correspondents state that more attention is being paid to swine raising; others that pork will continue to be scarce.

Ontario.—There is little demand for horses. Cattle and swine are in good condition, and prices for beef and pork are high. The increasing demand for wool is encouraging farmers to keep more sheep. Labour is hard to secure and high in price.

Manitoba.—The prices for live stock, excepting horses, are high, and feed is scarce. Milch cows are in good demand. Sheep are few in number and prices have increased. Farm labour is becoming a serious question, as few but aliens are to be had, and these only at very high wages. A shortage of water has been felt in some parts of the province.

Saskatchewan.—The market for horses is poor. Cattle and milch cows are in good condition and sell at high prices. Sheep are not kept in large numbers, but the industry is growing rapidly on account of the increasing demand for wool. Swine are few owing to the scarcity of coarse grains. Farm labour is very scarce and costly.

Alberta.—All stock have suffered owing to the severe winter and to the great scarcity of feed, but prices range high. Many farmers have had to dispose of swine through shortage of feed. High wages are offered for labour, which is hard to obtain.

British Columbia.—Farm help is scarce. The farmers as a rule manage to do their own work, with occasional help by the day. There is a good demand for farm horses and cows at good prices. Owing to the fast increasing demand for mutton and wool the sheep industry is growing rapidly. High prices are being paid for wool, and a grading station has been established by the Government at Kamloops. Stock are in good condition, and feed is plentiful owing to the mild winter.

A correspondent writes as follows: "The fast increasing value of mutton and wool, and the extraordinary demand for the latter, points to a shortage which should receive the earnest attention of both Federal and Provincial Agricultural Departments, with a view of affording every encouragement to breeders in the interior of British Columbia where there are large areas which can only be profitably used for sheep. These areas are to be found in some of the bottom lands of the valleys, but more particularly on steep hillsides broken by ravines and patches of rock, with bunch grass and other herbage which makes the best of mutton, and, combined with the dryness of soil and climate, produces good clean fleeces so much appreciated by woollen manufacturers. Kamloops is the geographical centre of a large country of this character and the only place in the province where wool is systematically graded before being marketed.

"The effect of this grading is shown in the result of the operations of the Interior of British Columbia Wool Growers Association. The wool handled by this association was about half of the production of the immediate vicinity and was marketed at $61\frac{1}{4}$ cents per lb. for all but locks and pieces which made 20 cents per lb., an average of 60 cents for the bulk. That part of the clip not handled by the association was disposed of to various dealers at an average not exceeding 42 cents."

"During the last two months of the past year, Mr. J. K. King of the Live Stock Branch, Department of Agriculture, Ottawa, has toured the province making a close inspection of the flocks, and he afterwards delivered an interesting address upon sheep and wool production at the annual meeting of the Kamloops Agricultural Association, in the course of which he remarked upon the satisfactory conditions existing and the good foundation stock in evidence. Additional evidence is found in the price paid for carcasses—28 cents per lb. and \$3 each for the pelts, net to the producer, the supply being far short of the local demand, leaving the coast cities and ocean shipping quite unprovided for."

SUGGESTIONS OF CROP CORRESPONDENTS.

Remedy against Warbles.—"A strong solution of salt in water bathed on the top of cows' backs will completely destroy and prevent the ravages of the warbles, and as these pests injure the leather made from the hides affected it will be helping the Empire's need to urge farmers to apply the solution and so produce a better quality of leather and prevent waste." GEORGE ATKINSON, North Augusta, Ont.

Production of Potatoes and Roots.—"My method of growing potatoes and roots, which has proved very satisfactory even in the past dry season, may help in the greater production campaign. Where the rainfall is often short, the need of all the moisture one can store up is essential to the tiding of the crop over dry spells. In the fall I disk over my root land; during the winter I draw out very short, not strawy, manure on the land, spreading thin but so as to catch as much snow as possible. In spring as soon as the frost is out of the ground sufficiently I disk the land at least half a dozen times so as to make a good mulch, which prevents the land drying out; then, when the wheat is sown, I plough deeply, harrow well at least six times and sow my root seed thinly, all on the same day, so that the seed gets plenty of moisture to start, then cultivate between the drills as often as possible. Potatoes are planted in sets 3 ft. apart and in rows, and every third furrow—so as to give every plant lots of room from which to draw moisture. Land so worked gives a good crop of grain the following year." A. M. BRADFORD, Arrow River, Man.

REPORTS OF PROVINCIAL GOVERNMENTS.

Ontario.—The Ontario Department of Agriculture reports (February 18) that live stock generally are in good condition, although most animals are receiving a ration with less than usual of grain or mill feeds in it. Butcher cattle are moving slowly, as the roads have been in a bad state for some weeks. While there are complaints of dairymen getting rid of some of their animals owing to the scarcity and high cost of feeds, there are several instances of grade milch cows realizing prices ranging from \$120 to \$195. The milk supply is described as being all the way from normal to light for this time of the year, but all dairy products are in very strong demand at good values. Owing to the comparative scarcity of corn, peas, meals, etc., there is an inclination on the part of some swine owners to market their animals rather on the lean side. For this reason also there is a danger of the hog campaign slowing up in some quarters, although the general nature of the reports concerning this enterprise show a strong determination on the part of Ontario farmers to see the matter through to a successful issue. In northern Ontario a splendid spirit is being manifested in this regard. Kenora reports: "Have raised \$1,100 by public subscription to finance a carload of brood sows to be distributed to farmers and others"; while in Port Arthur the City Garden Club is planning to feed hogs next summer. Marketing of field crops has been quiet, as the condition of the weather and roads has

been unfavourable. The tie-up on the railways owing to unusually heavy snow-storms has also affected distribution of some products. Besides this, most of the grains are now being fed on the farm. Oats have been disposed of more freely than any of the other cereals at prices running from 83 cents to \$1.10 a bushel. Hay is selling at from \$10 to \$12 in the barn, and at \$13 to \$17 on the track or in town markets. A considerable quantity of surplus hay is still in the barn or in stacks. Straw brings \$5 a ton in the stack, and is retailed at \$7, and there is a sufficiency on hand for both feed and bedding. Beans command \$7.50 a bushel, onions are hard to dispose of, but the demand for other vegetables is said to be from fair to good. Farmers are already making inquiries for summer help. Married men to be employed by the year with house, etc., are in better demand than ever. High school pupils and other town lads are also being asked for, while an early listing of college girls is being arranged for fruit picking and other light farm work.

Saskatchewan.—The Saskatchewan Department of Agriculture has issued a report on the yield and value of the agricultural products of the province for the year 1917. For field crops, the statistics of which were collected jointly by the Census and Statistics Office and the Saskatchewan Department of Agriculture, the value is \$348,000,000. The value of other products is given as follows: Butter, milk, cream, ice cream, \$8,600,000; wool clip, \$334,000; game furs, \$1,750,000; garden products, \$1,250,000; poultry and products, \$4,466,000. The value of these items added to that of the field crops, gives a total of \$364,400,000, in addition to the value of live stock, which is placed at \$243,426,340. The total value of agricultural products and of animals (horses, cattle, sheep and swine) exported from Saskatchewan during the season of 1917 is estimated at \$229,599,124. Owing to the open weather experienced during November the area of land prepared in the fall of 1917 was greatly in advance of that prepared during the previous fall. A conservative estimate, based on reports from crop correspondents, places the amount of fall ploughing at 50 p.c. increase on the area fall ploughed in 1916. The total amount of land prepared during 1917 for the 1918 crop is estimated to be 6,134,619 acres.

PRODUCTION OF FLAX FOR FIBRE IN ONTARIO, 1917.

Information furnished by the DIVISION OF ECONOMIC FIBRE PRODUCTION, Central Experimental Farm, Department of Agriculture, Ottawa.

Flax grown in western Ontario was considered a bumper crop, and 8,000 acres were sown. The fibre yield was 350 lb. per acre, valued at 55 cents per lb. The seed yield at 9 bushels per acre was valued at \$5.50 per bushel. Up to the present (February 11), 4,000 bushels of this year's seed have been shipped to Ireland. A large increase of the flax acreage in western Ontario is anticipated for 1918.

The following is an approximate estimate of the area, production and value of flax grown for fibre in Ontario for the three years 1915, 1916 and 1917:—

Description.	1915	1916	1917
Area.....acres	4,000	5,200	8,000
Yield. of fibre per acre..... lb.	200	57	350
Total yield of fibre..... tons	800	300	1,400
Total yield of tow..... "	80	175	—
Yield of seed per acre..... bush.	12	48	9
Total yield of seed..... "	48,000	25,000	72,000
Value of fibre per ton..... \$	400	600	1,100
Total value of fibre..... \$	320,000	180,000	1,540,000
Total value of tow..... \$	2,800	5,000	—
Value of seed per bush..... \$	1.60	3	5 50
Total value of seed..... \$	76,800	75,000	396,000

In 1916 there were in addition about 800 tons of flax straw valued at \$15 per ton, or \$12,000. The particulars relating to the crop of 1917 are at present incomplete. It will be observed from the statement that the price of fibre during the last three years has more than doubled, that the area sown for 1917 was 8,000 acres, as compared with 4,000 acres in 1915 and that the total value of the fibre was \$1,540,000 in 1917, as compared with \$180,000 in 1916 and \$320,000 in 1915. The total value of the products for 1917 (fibre and seed only) is \$1,936,000, as compared with \$260,000 in 1916 and \$399,600 in 1915 for all products.

DOMINION EXPERIMENTAL FARMS AND STATIONS.

Central Farm, Ottawa.—January has been stormy a good part of the time and uniformly cold, the thermometer registering below zero on seventeen days and never reaching above freezing, the highest temperature recorded being 27, the lowest -21.4 and the mean 4.95 , compared with extremes of 33 and -20.2 and a mean of 10.9 for the corresponding period of 1917. The precipitation totals 3.15 inches, consisting of 31.5 inches of snow, while a year ago it amounted to 4.05 inches, made up of 0.11 of an inch of rain and 39.5 inches of snow. The bright sunshine averages 4.15 hours a day, compared with 2.47 hours a day for January, 1917.

Charlottetown, P.E.I.—J. A. Clark, Superintendent, reports:—“January came in blustery and very cold; this was followed by a mild spell from the 4th to the 9th. On the 4th, 2.31 inches of rain fell, which settled the snow about eighteen inches. The blanket of snow that is over the fields everywhere must still be about a foot deep. From the 9th to the 24th, the temperature was moderate, with considerable wind from the west and northwest. The last week of the month has been cold, with the thermometer dropping below zero on five days. The continued cold weather has formed very heavy ice conditions in Northumberland strait; the new car-ferry, however, is making regular trips once or twice daily as traffic requires. The snow-storms and severe weather, which have frequently blocked all traffic on the railroad, have, so far, not interrupted winter communication with the mainland. After two months of severe

winter weather, the live stock are looking well, but a considerable hole has been made in the available supply of fodder. The prices of grain and hay are very high; some hay has already been imported into the province, while mill feeds have so far come in in sufficient quantities to meet the demand. The poultry industry has shown great development in the last few years, and, notwithstanding the high cost of feed, is still making rapid progress, as indicated by the annual meeting of the Prince Edward Island Egg and Poultry Association on January 14 and 15. This Association has handled a million dozen eggs during the year, and has increased its activities by branching out into the dressed poultry business. Short Courses held during the month were well attended, and much interest was shown in the discussions on methods of increasing production in 1918."

Kentville, N.S.—W. S. Blair, Superintendent, reports:—"The January mean temperature is 18.16, as compared with 18.85 in January, 1917, 22.36 in 1916, 22.83 in 1915 and 19.68 in 1914, respectively. There were seven days above freezing between the 4th and the 15th, the rest of the month being continuously cold. The temperature went to zero twice and to five degrees below zero on both the 1st and the 28th. There have not been the usual January thaws. There were light rains on the 4th, 7th and 8th, amounting to 0.57 of an inch. A snowfall on the 15th was followed by rain amounting to 0.63 of an inch, but these thaws were not continuous, and no flooding resulted. The snowfall has been light, aggregating only 9.5 inches, the heaviest being 3 inches on the 3rd and on the 15th. With no thaws and sufficient snow to cover the ground well, roads have been good throughout the month. The sunshine aggregates 81.6 hours, as compared with 84.2 hours in January, 1917, 93.4 in 1916, 73.4 in 1915 and 91.6 in 1914, respectively. Everything considered, this has been an ideal winter month, with no extremes either as to temperature or precipitation."

Nappan, N.S.—W. W. Baird, Superintendent, reports:—"January has been a typical winter month throughout. A greater variation in temperature was experienced during the early part, running from 18 below to 34 above in less than forty-eight hours. The thermometer has registered below zero on twelve different days, ranging from -1 on the 22nd to -18 on the 3rd, with a mean for the month of 14.44, as compared with 15.83 for January, 1917. Snow has been recorded on five different days and rain on two, a total precipitation of 2.31 inches, as compared with 3.38 inches for the same month last year. Market prices still remain high. There is a good demand for beef and fresh eggs. Hay is somewhat keener than the previous month, but shipments are slow, owing to the great shortage in coal, as the cars are used for the latter. Labour is scarce and wages are high. Good experienced farm help is next to impossible to get. The work engaging attention at this Farm, other than caring for the live stock, poultry, etc., has included threshing grain, crushing grain for stock, cutting and hauling ice, hauling hay, hauling manure to fields, cutting wood for fuel, and the piggyery."

Fredericton, N.B.—W. W. Hubbard, Superintendent, reports:—"January, 1918, will go down in history as one of the most rigorous ever experienced in New Brunswick. On seventeen days the thermometer has gone below zero and on eleven days it has been more than ten degrees below. Only for a short time on the 7th and 8th did the record go above freezing. This extreme cold was accompanied by high winds and a total fall of snow of 32 inches. The mean temperature is 8, compared with 10.3 in 1916, a previous low record, and against an average January mean for forty-three years of 13. Roads everywhere have been more or less impassable and farm work has been much interfered with. It is reported that the excessive depth of snow is hampering lumbering operations and railway transportation, both for the export of potatoes and hay, and also the importation of grain and feed, so much as to cause hardship and loss in many cases. Live stock are consuming an unusually large quantity of hay, but, generally, their condition is good. Milk, beef and all other live stock products are very scarce. It is difficult to move potatoes in the extremely cold weather, and local markets are bare with prices at and above \$4 per barrel of 165 lb."

Ste. Anne de la Pocatière, Que.—Jos. Begin, Superintendent reports:—"The weather during January has been severe, with several snow-storms and tremendous drifts in the fields, which have piled the snow in sheltered places. The highest temperature recorded is 34, the lowest -26.8 and the mean 8.6 degrees, compared with extremes of 38 and -28, and a mean of 8.9 a year ago. The precipitation totals 2.8 inches, made up entirely of snow. The bright sunshine averages 2.81 hours a day, compared with 3.52 hours a day a year ago. On the whole, the month has been one of the most unpleasant in that the cold waves were alternated by blizzards and drifts, with rather light but frequent snowfalls. Notwithstanding the poor roads and the cold, the coal shortage constrained the turning of almost all teams to the hauling of wood for fuel to towns where the same has been imperatively required. At the Station, the work has consisted chiefly in caring for all classes of stock, preparing seed grain for sale in limited quantities, hauling manure and attending to the roads."

Cap Rouge, Que.—G. A. Langelier, Superintendent, reports:—"The temperature has been lower during January than the average for the past seven years. The precipitation totals 3.4 inches, and there has been less sunshine than for the opening month during the past seven years. The main work at the Station has consisted in caring for the live stock and poultry, and in the preparation of grain, also of vegetable and flower seeds, for distribution. On the 30th and 31st, the Station showed at the Quebec Seed Fair an exhibit which attracted considerable attention. It has been difficult to keep roads in good shape, on account of strong winds resulting in heavy drifts; and very little hauling of hay, straw, or produce could be advantageously done. Work is still going on at the calf barn, which when finished, will be, without doubt, the largest and best of its kind in eastern and central Quebec."

Lennoxville, Que.—J. A. McClary, Superintendent, reports:—"January has been the coldest month on record since the Experimental Station was started, the highest temperature recorded being 37, the lowest -45, and the mean 2.16, compared with extremes of 43 and -40, and a mean of 7.11 a year ago. The bright sunshine recorded totals 70.7 hours, compared with 69.5 hours last year. The precipitation amounts to 2.2 inches, while a year ago it aggregated 3.63 inches. With the prevailing low temperature, and the large amount of snow and wind making the country roads almost impassable, and also the shortage of labour, the farmers have not been able to get advanced as well as they would have liked in the putting in of their supply of wood and ice and in various other kinds of work generally done in the winter months. Farmers seem to realize the scarcity of good seed for the spring crops and the importance of the factor of seed in increasing agricultural production, which will be so much needed this year; and they are taking more interest in getting their seeds ready than ever before. They realize that, with the scarcity of labour, they will not be able to put in a larger acreage, but are in hopes that with better seed and the selection of the same, treating the same for the prevention of fungous diseases, and perhaps better preparation of their soil, they will be able to increase the yields above what they have been in years before. At the present time the farmers throughout the Eastern Townships are busy organizing different local agricultural societies, farmers' clubs, and live stock associations, and especially the sheep breeders' associations for the different counties, which have done so much to help out the farmers in the disposal of their wool, lambs and mutton in the past two or three years. These associations have certainly demonstrated very conclusively the advantages of co-operation in lines of work like this."

Brandon, Man.—W. C. McKillican, Superintendent, reports:—"January has been a cold month, but probably not more so than usual. The lowest temperature is -41, recorded on the night of the 25th. The snowfall has been light, only three inches during the month; and there is just enough snow for good sleighing. The hog production campaign has taken hold well in Manitoba and a large number of farmers are breeding young sows that were intended for slaughter. At the Experimental Farm, thirty pure-bred sows have been bred for spring litters. The new buildings have been practically completed, and the cow stable has been occupied this month."

Indian Head, Sask.—W. H. Gibson, Superintendent, reports:—"The weather during January was moderate up to the 6th, when the temperature took a drop and it has remained very low to the end of the month, the cold being more severely felt owing to the prevailing northwest winds. Snow fell on five days, giving a total of 8.25 inches for the month. The work on the Experimental Farm has included cleaning and picking seed grain, crushing feed for stock, hauling straw and manure, and caring for the live stock and poultry."

Rosthern, Sask.—Wm. A. Munro, Superintendent, reports:—"January has been an average one as regards temperature and snowfall, but the winds have been high. The stock outside seem to mind

the low temperature with no wind less than they do the milder temperature with high wind. Nevertheless, the 60 steers and 6 yearlings and calves wintering in open corrals have continued to make satisfactory gains, with barley straw and oat chop, and plenty of water available. The work horses are being fed half a gallon of mixed oats and bran night and morning, and turned out during the day to an oat-straw stack; they are holding their own in weight and appear very healthy."

Scott, Sask.—M. J. Tinline, Acting-Superintendent, reports:—"Considerable cloudy weather has been experienced during January, but, as a result, the mean temperature for the month is not so low as was recorded for the previous month. The amount of snowfall is about the same as that experienced during this month in previous years. Up to the 23rd, the roads were in poor shape, but a thaw on this date caused the snow to settle and since that time the condition of the roads has been much improved. Many farmers are reporting a shortage of seed oats, and a number state that they will not have sufficient feed grain for the stock they have on hand. Mill feeds of all kinds appear scarce. At the Station, the work has consisted mainly in caring for the stock and in preparing seed grain for use here and to sell."

Lacombe, Alberta.—G. H. Hutton, Superintendent, reports:—"The weather during January has been cold and windy, with a greater fall of snow than usual. Consequent upon the low temperatures, the demand for forage by live stock has been heavy, while the high cost of concentrates renders grain feeding relatively expensive. However, values of live stock on the principal markets have shown sufficient strength to compensate the feeder in a large measure for the increased cost of feed. Increases in the numbers of breeding stock being wintered are reported, while preparations for spring work by the cleaning of seed and overhauling of machinery are indicated by correspondence from various parts of the country. The amount of available labour is likely to be the limiting factor in production effort next season."

Lethbridge, Alberta.—W. H. Fairfield, Superintendent, reports:—"The January mean temperature is 13·8, being practically the same as a year ago, when it was 13·1. The weather, on the whole, has been much less severe than during December. A Chinook wind took off practically all the snow early in the month and thus improved conditions on the range very materially. The total snowfall of the month is about five inches, but, as this was dry, it worked no injury. Hay throughout the country has been pretty well bought up and appears to be advancing in price. At the Station, the steers and lambs in the feeding tests have made very satisfactory gains."

Invermere, B.C.—G. E. Parham, Superintendent, reports:—"The mean temperature for January, 14·7, is somewhat higher than in the three preceding years, for which it averaged 5·61. Snow has fallen on fourteen days to a total depth of 7·9 inches, while the absence of Chinook winds have enabled this amount of protection to be retained for the clover and for some other plants which, under reverse

conditions, are subject to winter-killing. The total snowfall this winter amounts already to 34.3 inches,—an exceptionally high record for this district, and which, up to date, exceeds the total snowfall for the previous winter by upwards of twenty inches. The bright sunshine totals 44.1 hours, as against 99 hours in January, 1917. The feed on the ranges is considered to be ample for the horses wintering in the open, the absence of any crust on the snow offsetting its unusual depth and the consequent difficulty for the horses, of reaching it. The work of clearing an additional piece of land, recently added to the Experimental Station, is being proceeded with, with a view of getting it under crop during the coming season. In order to increase production on this land, and to furnish the soil with humus, manure, which will be ploughed under in the spring, is being hauled from one of the large mining camps. At a meeting of the Windermere District Agricultural Association held on the 18th, the campaign for increased hog production was discussed. It was ascertained that several additional brood sows were being imported into the Valley. To further the movement, a Berkshire boar is being sent to this Station from the Dominion Experimental Station at Lacombe.”

Summerland, B.C.—R. H. Helmer, Superintendent, reports:—“January came in warm, with no frost till the 9th, when the temperature dropped to 19 at night. The middle of the month was fairly mild, with minimum temperatures ranging from 17 to 32; but it gradually got colder till the lowest this year was registered on the 31st, when it was -2, with a cold north wind. Sleighing on the upper benches is good, but there is none along the lake shore. Hay is very scarce, but the open winter has helped farmers with their stock. There has been a shortage of cordwood in the district, and coal, too, is scarce. This year, a lot of wood is being cut. Throughout the district, much interest is being shown in the labour question and at many places committees are being formed to go into the situation. Interest is also being taken in the production of seed. The question of keeping hogs in back-yards is receiving attention here, and, if properly handled, should be beneficial in filling local needs for bacon and ham, without importation, and perhaps leave a surplus for shipping out.”

Agassiz, B.C.—W. H. Hicks, in charge, reports:—“The mean temperature for January is 37.25, the highest since 1914. The minimum, 15, compared with -1 for the corresponding period a year ago, was not recorded until the closing days of the month, the lowest temperature up to the 29th being 30. The precipitation totals 9.76 inches, which is slightly less than in January last year, although it fell on twenty-four different days during the month. The dairy herd and laying poultry have kept up in their production well, and the prices for their products have been good. The local farmers have purchased considerable feed through the Co-operative Association. Judging from the number of inquiries received at this office, it would seem that a great many are interested in increased hog production.”

Sidney, Vancouver Island, B.C.—Lionel Stevenson, Superintendent, reports:—“Weather conditions during January have

been favourable for outside work, and some ploughing has been done. The lowest temperature recorded is 21. The precipitation amounts to 3.75 inches, with but 60.18 hours of bright sunshine. At the Experimental Station, an implement shed has been built, roads have been improved by gravel, manure has been teamed to fields, and landscape improvement, consisting of planting, pruning and tillage, has been carried on. Considerable sod land in the district has been ploughed during the month. The movement of feed stuffs from town to country points has been large. Some potatoes from the district were sold at good prices. Live stock is in good condition. In the district, there has been an increase in the number of sheep and swine and a small decrease in the number of cattle. Hens have produced well during the entire month, and all poultry products have been in great demand at high prices."

Meteorological Record for January, 1918.

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of January are given in the following table:—

Experimental Farm or Station at—	Degrees of Temperature, F.			Precipitation in inches	Hours of Sunshine.	
	High-est.	Low-est.	Mean.		Pos-sible.	Actual.
Ottawa, Ont.....	27.0	-21.4	4.95	3.15	285	128.7
Charlottetown, P.E.I.....	42.0	-11.0	15.38	3.91	281	111.9
Kentville, N.S.....	43.0	-5.0	18.16	2.18	286	81.6
Nappan, N.S.....	39.0	-18.0	14.44	2.31	285	96.00
Fredericton, N.B.....	35.5	-27.5	8.00	3.20	283	98.8
Ste. Anne de la Pocatière, Que.....	34.0	-26.8	8.60	2.80	278	87.2
Cap-Rouge, Que.....	32.0	-31.7	7.80	3.40	278	38.1
Lennoxville, Que.....	37.0	-45.0	2.16	2.20	285	70.7
Brandon, Man.....	28.50	-41.0	-4.60	0.30	268	93.0
Indian Head, Sask.....	39.0	-40.0	-8.81	0.82	266	57.5
Rosthern, Sask.....	33.0	-45.3	-7.40	1.40	252	87.6
Scott, Sask.....	37.0	-42.8	4.69	0.77	255	62.5
Lacombe, Alberta.....	47.0	-44.0	6.97	5.30	257	57.2
Lethbridge, Alberta.....	60.0	34.5	13.80	0.46	269	75.1
Invermere, B.C.....	40.0	-32.0	14.70	0.77	266	44.1
Summerland, B.C.....	44.0	-2.0	29.47	1.10	268	53.2
Agassiz, B.C.....	51.0	15.0	37.25	9.76	271	23.3
Sidney, Vancouver, I., B.C.....	53.0	21.0	40.26	3.75	273	60.2

Ottawa, February 15th, 1918.

J. H. GRISDALE,
Director, Dominion Experimental Farms.

SUPPLIES AND DISTRIBUTION OF SEED FOR FIELD CROPS OF 1918.

By GEORGE H. CLARK, Seed Commissioner, Department of Agriculture, Ottawa.

The district officers of the Seed Branch, each having supervision over a definite area or province, are required each year to make a survey of crop conditions in respect to seed supplies for the ensuing year. Their reports for September indicated the need for continuing

the services of the Seed Purchasing Commission, and their later reports have indicated more clearly the extent of such services. Last year the operations of this Commission were confined to the purchase, cleaning and sale of wheat, oats and barley suitable for seed. This year their operations have been extended to include peas and beans.

Seed of cereal grains is this year being purchased in the Prairie Provinces and in Ontario. Supplies are assembled in the Canadian Government Elevators at Calgary, Saskatoon, Moosejaw, Transcona, Port Arthur and Quebec, where they are cleaned ready for distribution in carload lots either in bulk or in sacks as required. The head office of the Seed Purchasing Commission for the west of Canada is in the Post Office Building, Regina, Sask., and for the east of Canada in the Post Office Building, Quebec City. The sale and distribution of seed peas and seed beans are controlled by the agent of the Seed Purchasing Commission, Department of Agriculture, Ottawa.

The main purpose of the Commission is to guard against possible seed shortage by purchasing and holding in store supplies of food grains that may safely be used for seeding purposes. Its operations do not interfere unduly with the business of seedsmen since the Commission does not handle named varieties of seed grains, with the exception of a commercial grade of Marquis wheat. All of the grains purchased for seed is obtained subject to inspection as to definite standards of quality for seed grades.

The Commission has been able to procure an abundant supply of Marquis wheat of good quality to take care of estimated requirements. They have had difficulty in getting supplies of oats suitable for seed, and have had repeatedly to lower the standards of quality in respect to the prevalence of wild oats, and to increase the premiums over current market values in order to get delivery of oats that might be considered at all suitable for seed. The same difficulties have been met with in respect to seed barley.

Because of weather conditions during 1916 and the spring of 1917, the area devoted to peas in eastern Canada became very much reduced. In consequence the price of peas has continued abnormally high. At \$4 per bushel paid to farmers for uncleaned peas this grain is too expensive for feeding to live stock for the purpose of animal products. They have been in demand principally for human food and for seed. As the world's supply of meat becomes further decreased the demand for food grain rich in protein, such as peas and beans, will undoubtedly become increased. A substantial supply of seed peas has been purchased and is now held in reserve by the Seed Purchasing Commission. In large part because of weather conditions the bean crop of Ontario has been a partial failure during each of the last two years, and at the present time it is difficult to obtain seed beans in the bean areas of Ontario and Quebec that are free from anthracnose and are otherwise suitable for holding in reserve for seeding. It has been possible to procure a limited quantity of seed beans free from disease from the Okanagan Valley in British Columbia, and these will be made available for planting in the bean districts in eastern Canada.

The Seed Purchasing Commission is not operating for the purpose of making profit. The prices fixed for the sale of seed grain held by the Commission are calculated to cover the net cost of the re-cleaned seed so far as it is possible to determine that cost.

The situation in respect to field root and garden seeds has become acute not only throughout North America but in parts of Europe from which these seeds were formerly imported. Indeed at the present time Europe is looking to Canada for supplies of some of these seeds that were formerly exported. Arrangements for production have to be made two years in advance. It is not reasonable to expect that Canadian farmers will grow these seeds unless they have an order in advance, because when produced the seeds cannot be used for any other purpose. The wholesale prices for these seeds now range as high as ten times normal, and at these prices seed merchants are disinclined to place contract orders for more than their estimate of bare requirements. This condition leads to further difficulties in respect to seed shortage. To help to overcome these difficulties the Dominion Experimental Farms Branch has undertaken the production of 50 p.c. of Canada's requirements of those field root and garden seeds that were formerly imported from Europe. In addition the Board of Governors of the University of British Columbia, in agreement with the Government of British Columbia, has undertaken the war-time emergency production of practically the remaining half of Canada's requirements. This work has been allotted to Professor L. S. Klinck and his staff of the Agricultural Department of the University. Dean Klinck is now in a position to receive requisitions for seed supplies from any seed house and to arrange for their production and for the inspection of seed crops among British Columbia growers. To support him further in this work the Minister of Agriculture has undertaken to accept delivery at the Canadian Government Elevator at Vancouver on or before January 31, 1920, of the following kinds and quantities of these seeds, re-cleaned, at the prices set opposite each:

Seed.	Quantity.	Price per lb.
	lb.	\$ cts.
Mangel.....	300,000	0 25
Sugar beet.....	150,000	0 25
Garden beet.....	100,000	0 40
Swede turnip.....	300,000	0 35
Fall turnip.....	50,000	0 35
Garden turnip.....	20,000	0 40
Rape.....	200,000	0 08
Field carrot.....	3,000	0 50
Garden carrot.....	7,500	0 60
Parsnip.....	5,000	0 25
Radish.....	50,000	0 40
Onion.....	10,000	1 00
Lettuce.....	2,500	0 50
Cabbage.....	15,000	1 50
Celery.....	1,000	1 50

In view of the present and prospective prices of these seeds and of the fact that the growers will have the privilege of selling at any price which they can obtain, it is not contemplated that it will be necessary for the Department of Agriculture to take delivery of any considerable quantity of such seeds.

In order to obtain accurate data as to supplies of seeds available in Canada the Minister of Agriculture has taken authority under the War Measures Act to require seed merchants promptly to supply accurate information regarding grasses, clovers, forage crops, field root and garden seeds of all kinds, respecting stock in hand, total receipts for the year and arrangements for production for the ensuing year. The information is being collected concurrently in Canada and the United States, and the totals when obtained, indicating shortages and surplus of each kind, will be published.

Canadian farmers and gardeners have no occasion for serious alarm as to seed supplies for the ensuing season. They may suffer considerable inconvenience, because of being unable to procure particular varieties or because of difficulties of transportation in getting their seed supplies. Difficulties in respect to seed supplies are expected to be more pronounced for the planting of 1919. Since the outbreak of the war repeated intimations have been given through press articles and otherwise that farmers and gardeners should carefully preserve a supply of the best specimens of field and garden roots and transplant them early in the spring to produce seeds for themselves and to spare for their locality. Unfortunately this has been done to a very limited extent and is not apt to be done by many farmers or gardeners during the ensuing season. The larger efforts now being made by the Experimental Farms Branch and the Province of British Columbia are expected to yield a seed supply sufficient to guard against shortage for the spring of 1920.

The United States Department of Agriculture seed corn survey indicates the imperative need of rigid conservation of all seed corn suitable for planting for the production of matured grain throughout the whole area north of the States of Kansas, Missouri, Tennessee and Virginia. The statistical determination of the seed corn situation in this area would indicate that even with rigid conservation there may not be sufficient corn generally considered suitable for planting to provide for more than about seventy-two per cent of the normal acreage.

There is on the part of the Seed Stocks Committee at Washington a wholesome desire to do everything possible to relieve the serious seed situation in respect to ensilage corn in Canada. It is pointed out, however, that the supply of seed of the late varieties grown in or south of Kansas, Missouri, Tennessee and Virginia will not be plentiful, considering the demands for ensilage corn throughout the northern areas of the United States and also of Canada. They have, however, arranged with the U. S. War Trade Board that the supply of this corn will be made available to Canada as freely as it is available to the United States and have agreed to release under license an amount up to five hundred thousand (500,000) bushels on condition

that all of the orders from Canada would issue from one central governmental organization. Arrangements have therefore been made under authority from the Minister of Agriculture with the War Trade Board of the United States that all Canadian orders for seed corn will be confirmed by the Canadian Government Seed Purchasing Commission.

In conference with representative wholesale seedsmen in Toronto on Friday, February 22nd, it was arranged that a committee of the wholesale seed trade shall co-operate with the Seed Purchasing Commission. This committee undertakes to provide that there shall be no shortage of ensilage seed corn for Canada. The committee consist of: A. O. Hogg, of Hogg & Lytle, Limited, Toronto, convenor; E. F. Crossland of Steel Briggs Seed Co., Toronto; John Rennie of Wm. Rennie Co., Ltd., Toronto; Walter Bruce of J. A. Bruce & Co., Hamilton; W. McWilliams of Wm. Ewing Co., Ltd., Montreal; J. O. Duke, Ruthven, Ontario.

It was agreed to by the seedsmen that the net profits on seed corn imported under the order of the Seed Purchasing Commission shall not exceed 5 p.c. on carload lots and $7\frac{1}{2}$ p.c. on less than carload lots in wholesale quantities. The price of the corn is not fixed and will depend upon the condition of the market when orders are placed.

An order for 100,000 bushels has already been placed with D. I. Bushnell & Co., St. Louis, Missouri, by the Seed Purchasing Commission. Seed corn ordered from this company by Canadian dealers will come forward under the Commission's order, but the Canadian seedsmen will have to accept corn grown within the area above mentioned. Orders placed with other firms who can deliver corn from the prescribed area may be filled if they are repeated through the Seed Purchasing Commission. Orders, for seed corn of varieties not grown in or south of Kansas, Missouri, Tennessee and Virginia, or to dealers who cannot deliver from this area, will not be filled. Dealers who have not yet placed orders or who have corn ordered which will not be delivered owing to the area restrictions, should order their requirements of the southern grown seed through the Seed Purchasing Commission as soon as possible.

For convenience in operating with the Seed Trade Committee, the work of the Seed Purchasing Commission in connection with the seed corn will be handled through the Toronto office of this Branch. Orders and other communications on the subject should be addressed to Mr. W. J. W. Lennox, Agent, Seed Purchasing Commission, 28 Front St. East, Toronto, Ont.

CROP REPORTS FROM OTHER COUNTRIES.

Ireland.—The Irish Department of Agriculture estimated (December 21, 1917) that the total yield of flax in Ireland in 1917 was 2,457,865 stones of 14 lb. from 107,705 acres, as against 2,318,652 stones from 91,454 acres in 1916. The average yield per acre was 22.8 stones as against 25.4. The yield per acre of 1917 was 6.8 stones below the average of 29.6 stones for the ten years 1907-16.

On the same date the Department reported that the production of turnips in 1917 was 172,658,928 bushels from 293,452 acres, as compared with 165,605,865 bushels from 262,814 acres in 1916, and of mangolds 68,474,845 bushels from 93,074 acres, as compared with 60,771,927 bushels from 80,434 acres in 1916. The yields per acre were for turnips 586·13 bushels, as against 630·93 bushels in 1916, and of mangolds 735·46 bushels, as against 754·13 bushels in 1916.

France.—The Journal Officiel of January 30 publishes an estimate of the French Department of Agriculture of the areas under winter crops on January 1, 1918. The following statement shows the areas sown, as compared with 1917:—

Crop.	1917	1918	Difference compared with 1917.
	acres	acres	acres
Wheat.....	10,569,000	11,360,000	+791,000
Meslin.....	240,000	223,000	— 17,000
Rye.....	2,046,000	1,955,000	— 91,000
Barley.....	270,000	249,000	— 21,000
Oats.....	1,608,000	1,711,000	+103,000

Although meslin, rye and barley have lost about 129,000 acres, winter oats have gained about 103,000 acres and wheat has gained 791,000 acres. For the first time since 1915 the figures show an increase. The areas recovered for the growth of wheat are not so great as those lost during the years of the war; but the gain as compared with last year is considerable. The average condition of the wheat crop on January 1, 1918, was 69 as against 61 on January 1, 1917.

United States.—The Monthly Crop Report of January, 1918, states that larger stocks than usual of potatoes were held on January 1 in the important potato-producing states, according to reports of correspondents of the Bureau of Crop Estimates. This is the reverse of conditions a year ago, when an unusual scarcity was indicated. Supplies on hand January 1, 1918, for market in 19 northern states are estimated to be about 146 p.c. larger than a year ago, 39 p.c. larger than two years ago, 13 p.c. smaller than three years ago, and 14 p.c. larger than the average for the preceding five years. If, for the purpose of comparison, the estimates of percentages of marketable stocks of potatoes January 1 be applied to the estimates of total production, it shows in the states included, a total of 147,585,000 bushels January 1, 1918, compared with 59,946,000 bushels held a year ago, 106,225,000 two years ago, 169,554,000 three years ago, and 129,941,000, the average of the preceding five years.

International Institute of Agriculture.—A cablegram received from the International Institute of Agriculture (February 25) states that the estimated production of potatoes in Great Britain, Ireland,

Italy, Luxemburg, Norway, Holland, Sweden, Switzerland, Canada, the United States, Japan and France is 1,561,451,000 bushels, which is 385,000,000 bushels, or 32·8 p.c., more than the production of the same countries in 1916 and 91,000,000 bushels, or 6·3 p.c., more than the average of the five years 1911-15. The production of sugar beet in Holland, Sweden, Switzerland, Canada, the United States and France is 11,317,000 tons, a decrease of 471,000 tons, or 4 p.c., as compared with 1916, and a decrease of 2,320,000 tons, or 17 p.c., as compared with the five years' average. The wheat crop of New Zealand is reported as 7,819,000 bushels, an increase of 2,819,000 bushels, or 55 p.c., more than last year, and of 1,219,000 bushels, or 22 p.c., over the five years' average. In South Africa the production of corn is 32,140,000 bushels, a decrease of 3,000,000 bushels, or 8 p.c., less than last year.

The area sown to fall wheat for 1918 in Denmark is 141,000 acres, an increase over 1917 of 2 p.c.; in France 11,359,000 acres, or an increase of 793,000 acres, or 7·5 p.c.; in Scotland, 67,000 acres, an increase of 22 p.c.; in India 33,912,000 acres, an increase of 3,000,000, or 9·8 p.c.

Climatic conditions generally were very variable during January. They were excellent in Denmark, favourable in France, Great Britain, Italy, Switzerland and India, average in Algeria and Egypt and mediocre in Spain, Rumania and Japan.

FARM ANIMALS IN THE UNITED STATES, 1917-18.

The Crop Reporting Board of the U.S. Department of Agriculture issued (February 1) the following estimates of the numbers and values of live stock on farms and ranges in the United States on January 1, 1918, as compared with the revised figures for January 1, 1917:—

Farm animals.	1917	1918	1917	1918	1917	1918
	No.	No.	\$ per head	\$ per head	\$	\$
Horses.....	21,210,000	21,563,000	102 89	104 28	2,182,307,000	2,248,626,000
Mules.....	4,723,000	4,824,000	118 15	128 74	558,006,000	621,064,000
Milch cows.....	22,894,000	23,284,000	59 63	70 59	1,365,251,000	1,643,639,000
Other cattle.....	41,689,000	43,546,000	35 92	40 88	1,497,621,000	1,780,052,000
Sheep.....	47,616,000	48,900,000	7 13	11 82	339,529,000	577,867,000
Swine.....	67,503,000	71,374,000	11 75	19 51	792,898,000	1,392,276,000

The number of animals not on farms, i.e., in cities and villages, is not estimated yearly, but their number in 1910, as reported by the Census, was: Horses, 3,183,000; mules, 270,000; cattle, 1,879,000; sheep, 391,000; swine, 1,288,000. The Census of 1910 also reported 106,000 asses and burros on farms and 17,000 not on farms; 2,915,000 goats on farms and 115,000 not on farms. As compared with 1917,

the following increases have taken place: In numbers: Horses 353,000; mules 101,000; milch cows 390,000; other cattle 1,857,000; sheep 1,284,000; swine 3,871,000. In average value per head: Horses, \$1.39; mules \$10.59; milch cows \$10.96; other cattle \$4.96; sheep \$4.69; swine \$7.76. In total value: Horses \$66,319,000; mules \$63,058,000; milch cows \$278,388,000; other cattle \$282,431,000; sheep \$238,338,000; swine \$599,378,000. The total value on January 1, 1918, of all animals enumerated above was \$8,263,524,000, as compared with \$6,735,612,000, on January 1, 1917, an increase of \$1,527,912,000, or 22.7 p.c. The increase of 4.5 p.c. in numbers of all "other cattle" is due to an increase of 4.2 p.c. in calves; 22.7 p.c. in heifers for milk; 8.5 p.c. in other heifers; a decrease of 3.2 p.c. in steers and an increase of 1.9 p.c. in other cattle (milch cows not included). Swine over six months old increased 4.5 p.c.; those under six months increased 7.8 p.c.

LARGE CROP YIELDS IN THE UNITED STATES.

The U. S. Monthly Crop Report of January, 1918, gives the results of special inquiries made with the object of ascertaining the largest yields per acre of particular crops grown during the season of 1916. The following is a selection from the report of the largest yields per acre recorded of the crops named, together with the county, state and United States average per acre for the same year:

No.	Crop.	County and State.	Acre-age.	Yield per acre.	County average.	State average.	U.S. average.
				bush.	bush.	bush.	bush.
1	Winter wheat.....	Boulder, Colo.....	12	81.5	30.0	20.0	13.8
2	Oats.....	Eagle, Colo.....	3	142.0	58.3	33.0	30.1
3	Barley.....	Lewis, Id.....	12	105.0	45.0	39.0	23.6
4	Rye.....	Chouteau, Mon.....	2½	54.4	—	20.5	15.2
5	Corn.....	Norfolk, Va.....	1	174.0	22.9	28.0	24.4
6	Flaxseed.....	Mower, Minn.....	2	22.5	9.5	8.5	9.7
7	Potatoes.....	Nevada, Cal.....	1	692.7	167.0	141.0	80.5
				lb.	lb.	lb.	lb.
8	Tobacco.....	Franklin, Ill.....	1	3,000	—	750.0	816.0

Many of the large crop yields recorded were from areas that were irrigated, and in the above statement No. 2 (oats) and No. 7 (potatoes) were from areas the moisture for which was thus controlled. In the case of the oats the land was previously in alfalfa, and the seed was sown at the rate of 108 lb. per acre. The barley yield (No. 3) is stated to have been from land that was summer fallowed in 1915 and sown in the fall of that year to Jenkins Club Wheat. This was so badly frozen that in the spring the land was disked and harrowed, barley

being drilled in on May 17, 1916, and harrowed in next day. The yield of 105 bushels was the result. All the corn yields recorded were those of boys' clubs, who used various methods, but who all prepared a deep seed bed, had it thoroughly pulverized, manured plentifully and used good seed, field selected in most cases and of the prolific variety. Their cultivation also was invariably shallow and frequent.

INSPECTION AND SHIPMENTS OF GRAIN, 1917.

According to the Weekly Bulletin for January 28, 1918, of the Department of Trade and Commerce, the number of cars and total quantities of grain inspected at Winnipeg and other points in the western division for the four months ended December 31, 1917, as compared with the corresponding periods of 1914, 1915 and 1916, were as follows:—

Grain.	Four months ended Dec. 31, 1914.		Four months ended Dec. 31, 1915.		Four months ended Dec. 31, 1916.		Four months ended Dec. 31, 1917.	
	cars.	bushels.	cars.	bushels.	cars.	bushels.	cars.	bushels.
Wheat.....	61,349	69,017,625	156,449	176,005,125	84,247	101,096,400	90,390	103,948,500
Oats.....	10,114	19,216,600	21,341	40,547,900	20,018	41,036,900	12,440	24,268,000
Barley.....	2,472	3,213,600	5,276	6,858,800	4,984	6,728,400	4,148	5,392,400
Flaxseed.....	2,146	2,199,650	1,423	1,458,575	2,608	2,999,200	2,366	2,602,600
Rye.....	90	90,000	76	76,000	98	98,000	298	298,000
Speltz.....	—	—	1	1,000	—	—	—	—
Screenings.....	83	83,000	107	107,000	188	188,000	430	430,000
Total.....	76,254	93,820,475	184,673	225,054,400	112,143	152,146,900	110,072	136,939,500

The shipments of grain from Fort William and Port Arthur for the four months ended December 31, 1914, 1915, 1916 and 1917 were as follows:—

Grain.	Four months ended Dec. 31, 1914.	Four months ended Dec. 31, 1915.	Four months ended Dec. 31, 1916.	Four months ended Dec. 31, 1917.
	bushels.	bushels.	bushels.	bushels.
Wheat.....	49,312,580	140,989,805	61,681,973	91,729,372
Oats.....	9,626,842	22,278,121	20,452,027	12,977,175
Barley.....	1,779,167	4,199,721	3,949,731	2,997,969
Flaxseed.....	3,629,624	1,761,267	2,503,243	1,928,487
Total.....	64,348,213	169,228,914	88,586,974	109,633,003

THE WEATHER DURING JANUARY.

The Dominion Meteorological Office reports that the mean temperature was above the average in the western and southern parts of British Columbia, and also in the extreme eastern portion of Quebec and the northeast portion of New Brunswick, while in all other parts of the Dominion it was below the average. In the western provinces, the negative departure was very generally between 2° and 6° , while to the eastward of Manitoba the defect increased gradually until on the high lands of the peninsula of Ontario it was as much as 14° . Towards eastern Ontario and over Quebec the defect again diminished, and in the Gaspé peninsula the departure was slightly positive. In the southern portions of the Maritime provinces the negative departure was between 2° and 6° . In British Columbia the precipitation was either average or somewhat in excess of average; on Vancouver Island and the Lower Mainland it was chiefly rain, while on the Upper Mainland it was mostly snow, which in some localities was heavy. In Alberta and Saskatchewan there were many light snowfalls, but no heavy storms, and in Manitoba the snow was quite light and less than average. In Ontario and Quebec the precipitation was almost wholly in the form of snow, and differed little from average, except near the shores of Lake Huron and the Georgian Bay, when it was in excess of the average. In the Maritime provinces there were few days of rain and many of snow, and the total aggregate amount was in defect of average, except in Cape Breton and northern New Brunswick. At the close of the month the whole Dominion, exclusive of the lower levels of British Columbia, were snow-covered. The greatest depth, which exceeded 30 inches, was in central Ontario and in Quebec. In the southern portions of the western provinces there was less than 10 inches, while in the north the depth was as much as 20 inches.

PRICES OF AGRICULTURAL PRODUCE, 1918.

EXPLANATORY NOTES.—(1) The weekly range of prices of Canadian grain at Winnipeg and Fort William (Table I) is furnished by the Board of Grain Commissioners for Canada and covers the weeks ended Saturday. (2) The monthly range of prices of grain at selected markets in the United States (Table II) is taken from the Monthly Crop Report of the U.S. Department of Agriculture. (3) The prices of imported grain and flour at British markets (Table III) are taken from the Market Supplements of the "Mark Lane Express" for London, and represent the range at the weekly Monday Market; for Liverpool the prices are taken from "Broomhall's Corn Trade News," and represent the range for cash on Tuesday of each week. (4) The rate employed for conversion from English to Canadian currency is \$4.86½ to the £ sterling. For grain the British measures have been converted to Canadian measures of the legal weights per bushel, viz., 60 lb. wheat, 48 lb. barley, 34 lb. oats, and for other produce from long cwt. of 112 lb. to short cwt. of 100 lb.

I. Weekly Range of Prices per bushel of Canadian Grain at Winnipeg and Fort William, 1918.

Grain and Grade.	Jan. 5.		Jan. 12.		Jan. 19.		Jan. 26.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—								
No. 1 Nor.....	2 21	—	2 21	—	2 21	—	2 21	—
No. 2 Nor.....	2 18	—	2 18	—	2 18	—	2 18	—
No. 3 Nor.....	2 15	—	2 15	—	2 15	—	2 15	—
No. 4.....	2 08	—	2 08	—	2 08	—	2 08	—
No. 5.....	1 96	—	1 96	—	1 96	—	1 96	—
No. 6.....	1 87	—	1 87	—	1 87	—	1 87	—
Feed.....	1 70	—	1 70	—	1 70 —1 71		1 71 —1 72	
Oats—								
No. 2 C.W.....	0 81 ⁵ / ₈ —0 83 ⁷ / ₈		0 85 ⁵ / ₈ —0 87 ⁷ / ₈		0 88 ¹ / ₈ —0 89 ¹ / ₈		0 85 ¹ / ₈ —0 88 ⁵ / ₈	
No. 3 C.W.....	0 77 ³ / ₈ —0 79 ¹ / ₄		0 79 ³ / ₈ —0 81 ¹ / ₄		0 81 ¹ / ₈ —0 83 ¹ / ₄		0 81 ¹ / ₈ —0 83 ⁵ / ₈	
No. 1 Feed Ex.....	0 77 ³ / ₈ —0 79 ¹ / ₄		0 79 ³ / ₈ —0 81 ¹ / ₄		0 81 ¹ / ₈ —0 82 ¹ / ₄		0 81 ¹ / ₈ —0 83 ⁵ / ₈	
No. 1 Feed.....	0 74 ² / ₈ —0 76 ¹ / ₄		0 76 ¹ / ₈ —0 77 ¹ / ₄		0 77 ¹ / ₈ —0 79 ¹ / ₄		0 78 ¹ / ₈ —0 80 ³ / ₈	
No. 2 Feed.....	0 71 ¹ / ₈ —0 73 ¹ / ₄		0 73 ¹ / ₈ —0 74 ¹ / ₈		0 74 ¹ / ₈ —0 76 ¹ / ₄		0 75 ¹ / ₈ —0 76 ³ / ₈	
Barley—								
No. 3 C.W.....	1 37 —1 38		1 38 —1 44		1 43 ¹ / ₂ —1 46		1 45 ⁷ / ₈ —1 49	
No. 4 C.W.....	1 32 —1 33		1 33 —1 39		1 38 ¹ / ₂ —1 41		1 40 ¹ / ₂ —1 44	
Rejected.....	1 16 —1 17		1 15 —1 20		1 20 —1 21		1 21 —1 24 ¹ / ₂	
Feed.....	1 16 —1 17		1 15 —1 20		1 20 —1 21		1 21 —1 24	
Flax—								
No. 1 N.W.C.....	3 16 ¹ / ₂ —3 19 ³ / ₄		3 17 ³ / ₄ —3 25 ³ / ₄		3 15 —3 24 ¹ / ₂		3 18 ¹ / ₂ —3 21 ¹ / ₄	
No. 2 C.W.....	3 13 —3 16 ¹ / ₂		3 13 —3 22 ³ / ₄		3 09 —3 21 ¹ / ₂		3 15 ¹ / ₂ —3 18	
No. 3 C.W.....	2 96 —2 99 ¹ / ₄		2 96 —3 06 ¹ / ₂		2 99 —3 03 ¹ / ₂		2 97 ³ / ₄ —3 04 ¹ / ₂	

II. Monthly Range of Prices per bushel of Grain at Selected Markets in the United States, 1917-18.

Grade and Market.	October.		November.		December.		January.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat, Red Winter, No. 2—								
St. Louis.....	2 15	—	2 15	—	2 15	—	2 15	—
Chicago.....	2 17	—	2 17	—	2 17	—	2 17	—
New York (f. o. b. afloat).....	2 25	—	2 25	—	2 26	—	2 26	—
Corn, No. " , mixed—								
St. Louis.....	1 90 —2 02		1 95 —1 97		1 75	—	1 75	—
New York (f. o. b. afloat).....	2 03 —2 19		2 16	—	—	—	—	—
Corn, No. 2—								
Chicago.....	1 89 —2 15 ¹ / ₂		2 16 —2 22		1 80 —1 85		1 80 —1 85	
Oats, No. 2—								
St. Louis.....	0 57 —0 60 ¹ / ₂		0 58 ¹ / ₂ —0 59 ¹ / ₂		0 80	—	0 80	—
Chicago.....	0 58 ¹ / ₂ —0 60 ¹ / ₂		0 58 ³ / ₄ —0 60 ¹ / ₄		0 78 ¹ / ₂ —0 79		0 78 ¹ / ₂ —0 79	
Rye, No. 2—								
Chicago.....	1 78 —1 90 ¹ / ₂		1 76 —1 77 ¹ / ₂		1 82 —1 84		1 82 —1 84	

III. Range of Prices of Imported Grain and Flour at British Markets, 1917-18.

LIVERPOOL.

Description.	Dec. 4.		Dec. 11.		Dec. 18.		Dec. 24.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat (per bush.)—								
Blue Stem.....	—	—	2 32 $\frac{7}{8}$	—	2 32 $\frac{7}{8}$	—	2 32 $\frac{7}{8}$	—
Nor. Manitoba No. 1.....	2 32 $\frac{7}{8}$	—	2 32 $\frac{7}{8}$	—	2 32 $\frac{7}{8}$	—	2 32 $\frac{7}{8}$	—
Oats (per bush.)—								
Chilian, white.....	1 67	—	1 67	—1 68 $\frac{1}{2}$	—	—	—	—
“ tawny.....	1 60 $\frac{7}{8}$	—1 62 $\frac{1}{2}$	1 60 $\frac{7}{8}$	—1 62 $\frac{1}{2}$	1 60 $\frac{7}{8}$	—1 62 $\frac{1}{2}$	1 60 $\frac{7}{8}$	—1 62 $\frac{1}{2}$
Scotch.....	—	—	1 33 $\frac{1}{2}$	—1 34 $\frac{1}{2}$	1 33 $\frac{1}{2}$	—1 37 $\frac{1}{2}$	1 34 $\frac{1}{2}$	—1 36 $\frac{1}{2}$
Irish black, new.....	1 25 $\frac{3}{4}$	—1 27 $\frac{1}{8}$	1 27 $\frac{1}{8}$	—1 28 $\frac{3}{8}$	1 27 $\frac{1}{8}$	—1 28 $\frac{3}{8}$	1 28 $\frac{3}{8}$	—
“ white (milling).....	1 30 $\frac{1}{4}$	—1 31 $\frac{1}{4}$	1 36 $\frac{1}{2}$	—	1 36 $\frac{1}{2}$	—	1 36 $\frac{1}{2}$	—
“ white (feeding).....	—	—	1 30 $\frac{1}{4}$	—1 31 $\frac{1}{4}$	1 30 $\frac{1}{4}$	—1 31 $\frac{3}{4}$	1 30 $\frac{1}{4}$	—1 31 $\frac{3}{4}$
Am. clipped white.....	1 59 $\frac{1}{2}$	—1 60 $\frac{3}{8}$	1 58 $\frac{3}{8}$	—1 59 $\frac{1}{2}$	1 57 $\frac{3}{8}$	—1 59 $\frac{3}{8}$	1 57 $\frac{3}{8}$	—1 59 $\frac{3}{8}$
Can. Western No. 2.....	1 63 $\frac{1}{2}$	—1 64 $\frac{3}{8}$	1 64 $\frac{3}{8}$	—1 65 $\frac{1}{2}$	1 64 $\frac{3}{8}$	—1 65 $\frac{1}{2}$	1 65 $\frac{1}{2}$	—
Manx.....	—	—	1 53 $\frac{1}{2}$	—1 56 $\frac{1}{2}$	—	—	—	—
Scotch.....	—	—	—	—	1 34 $\frac{1}{2}$	—1 36 $\frac{1}{2}$	1 34 $\frac{1}{2}$	—1 36 $\frac{1}{2}$

MARK LANE, LONDON, E.C.

Description.	Jan. 7.		Jan. 14.		Jan. 21.		Jan. 28.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat (per bush.)—								
Canadian No. 1.....	2 34 $\frac{3}{8}$	—	2 40 $\frac{1}{2}$	—	2 40 $\frac{1}{2}$	—	2 41 $\frac{1}{2}$	—
“ No. 2.....	2 30 $\frac{1}{4}$	—	2 36 $\frac{1}{4}$	—	2 36 $\frac{1}{4}$	—	2 37	—
“ No. 3.....	2 25	—	2 31	—	2 31	—	2 30 $\frac{1}{4}$	—
“ No. 4.....	2 14 $\frac{3}{4}$	—	2 20 $\frac{2}{3}$	—	2 20 $\frac{2}{3}$	—	2 20 $\frac{2}{3}$	—
“ No. 5.....	2 11 $\frac{3}{4}$	—	2 17 $\frac{3}{4}$	—	2 17 $\frac{3}{4}$	—	2 17 $\frac{3}{4}$	—
“ No. 6.....	2 03 $\frac{1}{4}$	—	2 09 $\frac{1}{4}$	—	2 09 $\frac{1}{4}$	—	—	—
American—								
Spring.....	2 29 $\frac{1}{2}$	—2 32 $\frac{1}{2}$	2 35 $\frac{1}{2}$	—2 38 $\frac{1}{2}$	2 35 $\frac{1}{2}$	—2 38 $\frac{1}{2}$	2 35 $\frac{1}{2}$	—2 38 $\frac{1}{2}$
Hard Winter.....	2 29 $\frac{1}{2}$	—2 32 $\frac{1}{2}$	2 32 $\frac{1}{2}$	—2 35 $\frac{1}{2}$	2 32 $\frac{1}{2}$	—2 35 $\frac{1}{2}$	2 32 $\frac{1}{2}$	—2 35 $\frac{1}{2}$
Red Winter.....	2 20 $\frac{3}{4}$	—2 26 $\frac{1}{2}$	2 26 $\frac{1}{2}$	—2 32 $\frac{1}{2}$	2 26 $\frac{1}{2}$	—2 32 $\frac{1}{2}$	2 26 $\frac{1}{2}$	—2 32 $\frac{1}{2}$
Australian.....	2 41 $\frac{1}{4}$	—2 44 $\frac{1}{4}$	2 47 $\frac{1}{5}$	—	2 47 $\frac{1}{5}$	—	2 47 $\frac{1}{5}$	—
Indian—								
White.....	2 41 $\frac{1}{4}$	—2 44 $\frac{1}{4}$	2 47 $\frac{1}{5}$	—	2 47 $\frac{1}{5}$	—	2 47 $\frac{1}{5}$	—
Red.....	2 38 $\frac{1}{4}$	—2 41 $\frac{1}{4}$	2 41 $\frac{1}{4}$	—2 44 $\frac{1}{4}$	2 41 $\frac{1}{4}$	—2 44 $\frac{1}{4}$	2 41 $\frac{1}{4}$	—2 44 $\frac{1}{4}$
Californian.....	2 35 $\frac{1}{2}$	—2 38 $\frac{1}{2}$	2 38 $\frac{1}{2}$	—2 44 $\frac{1}{4}$	2 38 $\frac{1}{2}$	—2 44 $\frac{1}{4}$	2 38 $\frac{1}{2}$	—2 44 $\frac{1}{4}$
Argentine.....	2 35 $\frac{1}{2}$	—2 38 $\frac{1}{2}$	2 41 $\frac{1}{4}$	—	2 41 $\frac{1}{4}$	—	2 41 $\frac{1}{4}$	—
Oats (per bush.)—								
Canadian.....	1 65 $\frac{1}{2}$	—1 68	1 65 $\frac{1}{2}$	—1 68	1 65 $\frac{1}{2}$	—1 68	1 65 $\frac{1}{2}$	—1 68
American.....	1 57 $\frac{1}{2}$	—1 60 $\frac{1}{2}$	1 57 $\frac{1}{2}$	—1 60 $\frac{1}{2}$	1 57 $\frac{1}{2}$	—1 60 $\frac{1}{2}$	1 57 $\frac{1}{2}$	—1 60 $\frac{1}{2}$
Chilian.....	1 75 $\frac{1}{2}$	—1 86 $\frac{1}{2}$	1 81	—1 91 $\frac{1}{2}$	1 81	—1 91 $\frac{1}{2}$	1 88 $\frac{1}{2}$	—1 96 $\frac{1}{2}$
Flour (per 280 lb.)—								
Canadian.....	12 21	—12 60	12 21	—12 60	12 21	—12 60	12 21	—12 60
American.....	12 21	—12 60	12 21	—12 60	12 21	—12 60	12 21	—12 60

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DOMINION OF CANADA
DEPARTMENT OF TRADE AND COMMERCE
CENSUS AND STATISTICS OFFICE

Quarterly
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March, 1918.

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1918

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THE OUTBREAK OF WHEAT RUST IN 1916.

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As stated in the Census and Statistics Monthly of March last (Vol. 10, No. 103, p. 62), the Census and Statistics Office undertook, in co-operation with the Botanical Division of the Experimental Farms Branch of the Department of Agriculture, to issue to its crop-reporting correspondents a schedule of questions to which answers were desired from practical farmers who had observed the effects of rust during the season of 1916. The schedules, which were prepared by Mr. H. T. Güssow of the Botanical Division, were issued in November, 1916. They contained a large variety of questions regarding the rust outbreak of 1916. The inquiry was instituted by the Department of Agriculture with the object of ascertaining any factors that may have contributed to the severity of the rust outbreak and, if possible, of eliminating such contributory factors in future.

In all about 560 schedules were received,—158 from Manitoba, 260 from Saskatchewan and 141 from Alberta. Most of the correspondents answered the questions with care and deserve much credit for their work. Many of the questions had to be answered from memory, as the schedules were not sent out until the end of November; thus the replies were not so accurate as if the observations had been recorded at the time when the outbreak was in progress. Rust was not well known to some of the correspondents, especially in parts of northern Saskatchewan and northern Alberta, and in some replies it was apparent that other fungi which attack wheat in rainy weather were confounded with the rust.

From the replies on the schedules it does not seem that rust was general or caused much damage in Alberta in 1916, the majority of the correspondents stating that it was absent; so that the Alberta schedules have little bearing on most of the questions and have not usually been included in the summaries.

In the following report an effort has been made to present the views of the correspondents. It does not follow, of course, that in all cases the observations of the majority are correct.

QUESTION 1. *How would you describe damage from rust in your district in 1915?*

To this question 322 answered "absent," 54 "medium" and 33 "severe." Most of the answers "severe" were due to errors in entry, the correspondents thinking the question referred to 1916.

From these replies it is evident that there was not enough rust present in 1915 to attract the attention of many grain growers. This indicates that an outbreak may follow a year in which rust is not prevalent; that is when conditions are favourable an outbreak may occur any season.

QUESTION 2. *How would you describe damage from rust in 1916?*

The replies were as follows:—

Locality.	Absent.	Medium.	Severe.
Manitoba South.....	0	9	58
Manitoba North.....	0	24	47
Manitoba unclassified.....	0	3	14
Total.....	0	36	119
Saskatchewan South.....	0	44	57
Saskatchewan North.....	0	92	31
Saskatchewan unclassified.....	0	29	12
Total.....	0	165	100
Alberta South.....	40	16	2
Alberta North.....	49	21	11
Total.....	89	37	13

A study of the replies shows that rust was severe in southern Manitoba and southeastern Saskatchewan, and was less severe in northern Manitoba and northern Saskatchewan. Reports from districts in which little wheat is grown indicated that rust was less severe than in the better wheat-growing districts. This probably was due to lighter soil and the early maturity of the wheat, though there would be fewer spores produced in the districts where the wheat acreage was small, and thus less chance of infection.

QUESTION 4. *Give acreage of fields of wheat so much damaged by rust as to yield feed or less than feed.*

The majority of the answers were in percentages. The average of thirty-three from southern Manitoba gave a reduction of 75 per cent and the same number from northern Manitoba a reduction of 27 per cent. This is probably an under-estimate, as in the best wheat-growing districts the reduction was 85-100 per cent. In southern Saskatchewan the average of sixty answers gave a reduction of 25 per cent and in northern Saskatchewan the average of 57 answers showed a reduction of 16 per cent.

QUESTION 5. *In medium damaged fields what number of bushels has yield been reduced by rust, taking the average yield of normal years as 20 bushels per acre?*

In Manitoba the average of the answers was a reduction of yield of 10 bushels per acre, and in Saskatchewan 8 bushels per acre. Taking the wheat acreage as given in the Monthly Bulletin of Agricultural Statistics this would mean a reduction of yield totalling nearly 100,000,000 bushels of wheat in Western Canada due to rust in 1916.

Many fields produced returns of 30 to 50 bushels per acre. From information given later in the schedules these fields produced a large yield because they matured early and thus escaped the rust.

It seems probable also that in the absence of rust there would have been a good crop in most districts, as the fields that escaped the rust gave a large return.

QUESTION 6. *How did rust spread, slowly or rapidly?*

Three hundred and two answered "rapidly" and 77 "slowly." The second part of this question, "*Can you state whether the rust spread in any particular direction or in all directions?*" was answered in various ways. A number stated that the rust was reported further south before it appeared in their district. The majority of the answers did not convey information of much value.

QUESTION 7. *What part of the plant was most affected by the rust, the leaves or the stem?*

The replies were: leaves and stem equally, 107; leaves most, 87; stem most, 208. As the replies indicate, the leaves and stem are both attacked by the rust. The red rust stage is most conspicuous in the leaves and the black stage in the stem.

QUESTION 8. *How would you describe the weather conditions?*

As the weather conditions are an important factor in the development and spread of rust, the replies are tabulated in detail.

In the majority of cases these records were doubtless made from memory and thus would only in a general way be accurate. The answers indicate that the weather was dry and cold in many districts at the time of seeding. The reports from Manitoba when the wheat came up are conflicting, which may be interpreted as not much departure from the normal. In Saskatchewan and Alberta most districts report rainy cool weather. At the time of heading the weather was generally rainy and warm except in northern Alberta, where it was often reported as cold. After heading but before harvest the conditions at heading continued. The Dominion "Monthly Record of Meteorological Observations" agrees in a general way with

the reports in the schedules. It also shows the number of rainy days in July and the first part of August to have been large,—weather conditions very favourable for the development of rust.

Period.	Weather.	Manitoba.				Saskatchewan.				Alberta.		
		South	North	Un-classified.	Total	South	North	Un-classified.	Total	South	North	Total
At time of sowing.	Dry.....	35	35	8	78	50	54	27	131	7	10	17
	Rainy....	20	11	5	36	23	51	12	86	10	9	19
	Windy....	25	22	10	57	37	18	21	76	9	7	16
	Hot.....	6	4	1	11	10	6	3	19	0	0	0
	Cold.....	34	33	11	78	31	75	29	135	14	3	17
When Wheat came up.	Dry.....	23	20	6	49	25	20	13	58	6	3	9
	Rainy....	26	26	9	61	45	87	25	157	11	18	29
	Windy....	27	24	7	58	25	22	15	62	7	6	13
	Hot.....	12	6	4	22	15	10	8	33	0	0	0
	Cold.....	28	28	4	60	37	72	24	133	18	10	28
At time of heading.	Dry.....	12	12	—	24	28	15	9	52	1	1	2
	Rainy....	34	40	14	88	52	89	31	172	16	20	36
	Windy....	11	12	4	27	12	15	3	30	3	6	9
	Hot.....	49	48	12	109	56	48	25	129	4	5	9
	Cold.....	5	3	2	10	12	28	9	49	8	10	18
After heading and before harvest.	Dry.....	24	26	1	51	25	10	6	41	1	2	3
	Rainy....	19	27	10	56	47	94	41	182	16	18	34
	Windy....	10	18	2	30	18	18	4	40	5	6	11
	Hot.....	59	57	12	128	64	49	28	141	9	2	11
	Cold.....	5	2	0	7	12	44	8	64	8	13	21

In reply to the question, "*When did the rust first appear?*", 23 reported it when wheat was up, 191 at the time of heading and 131 after heading. The maximum damage was done at heading according to 97 reports and after heading according to 146. It is probable that the rust was present some time before it was noticed by the majority of the correspondents.

QUESTION 9. *Were the fields of wheat most damaged in (a) wet land, (b) high land, (c) on sandy light soils or heavy clay soils, (d) or exposed to any particular direction (if on slopes), south, north, east, west, (e) on well drained lands, (f) with natural or artificial drainage, (g) on badly drained lands?*

This question was not answered by many of the correspondents. The most damage was done to wheat on wet land according to 114,

high land 50, sandy land 54 and on clay 118. This would indicate that wet land and clay land were usually injured most, which is doubtless correct. The slope of the land did not make any difference according to the reports, and very few reported on the effect of drainage. However, 60 stated that badly drained land was damaged most.

QUESTION 10. *Has manure any effect on the severity of the rust?*

"Yes," 73; "No," 151. Though the majority did not observe any influence from the use of manure, experiments have shown that barnyard manure or nitrogenous fertilizers increase the severity of rust.

There was most damage on summer fallow according to 317; on new breaking 96; and on stubble 65. These replies indicate that summer fallow suffered most on account of ranker growth and later maturity.

From the replies to question 11, rotation did not appear to exert any marked difference, nor could any conclusions of value be drawn from the replies to question 12 relating to the grade of wheat used for seeding.

QUESTION 13. *Does rate of sowing appear to influence the amount of rust?*

"No," 192; "Yes," 70. On studying the answers to the remaining part of the question, i.e. "*What was the quantity sown per acre (a) on severely damaged land, (b) on medium damaged land, (c) on the best fields?*" it seemed that generally the same rate of seeding was used throughout. Where different rates were used the results were conflicting. It was found, however, at both the Manitoba and Saskatchewan Agricultural Colleges that rather thick seeding, $1\frac{3}{4}$ bushel per acre, was least injured by rust in the outbreak of 1916.

QUESTION 14. *State date of seeding of (a) severely damaged fields; (b) medium damaged fields; (c) slightly damaged fields.*

Generally the answers indicated that those sown in April and the first few days of May were the best fields and the later sown fields were most damaged.

QUESTION 15. *Does early or late seeding result in greater damage from rust?*

The replies showed that 322 found greater damage to late sown wheat and 28 to early sown. Thus nearly all were convinced that under the same conditions late sown grain suffers most.

QUESTION 16. *In rust years like 1916 did you observe any varieties of spring wheat almost always hardly damaged or decidedly less injured? If so state these varieties.*

The answers were various. In Saskatchewan: Marquis less injured than Red Fife, 39; Marquis best, 60; Red Fife and Marquis equal, 4; Red Fife best, 5; Prelude least injured, 8; Pioneer, Stanley, Chelsea and Kubanka, each 1; Preston, 9.

In Manitoba: Marquis less injured than Red Fife, 14; Marquis best, 45; Marquis and Red Fife equal, 1; Red Fife best, 2; Prelude and Preston, each 1; Durum, 2.

These answers were nearly unanimous that of the varieties commonly grown Marquis was least injured. As pointed out by many observers this was not because Marquis is resistant, but because it matured early and thus escaped the rust. Prelude and Pioneer are still earlier varieties and the small number of reports of these was doubtless due to the fact that they are not commonly grown.

QUESTION 17. *Have you seen fields in your district free or comparatively free from rust which were surrounded by severely damaged fields?*

Answers were: "Yes," 194; "No," 141. The fields that were comparatively free were early sown fields, light soil, etc., i.e., fields that ripened early and escaped the rust.

QUESTION 18. *If rust is severe would you advise early cutting or allow the crop to stand as if not affected?*

In Manitoba, 62 advised early cutting and the same number would allow the crop to stand until mature. In Saskatchewan 73 advised early cutting and 122 cutting at maturity. This question is still unsettled, but it would seem the answer depends to a great extent on the severity of the rust. When the attack is not severe it would seem unwise to cut before maturity.

QUESTION 19. *Is rusted straw used for feed?*

Replies from 329 reported the use of rusted straw for feed, and 46 did not use it.

QUESTION 20. *Have you heard of injury to animals fed on rusted grain or straw?*

Correspondents to the number of 355 reported no injury to animals when fed on rusted straw, and 7 reported injury, but some were doubtful if the injury was really due to the rusted feed. Rusted grain was fed by 343 without injury, and 11 reported injury, but as in the case of the straw some were doubtful if the rusted grain was the real cause of the injury. It is difficult to understand why rusted grain should be more injurious than grain shrivelled from any other cause. Very little rust would be present on the grain.

QUESTION 21. *Does the shrub Barberry grow in your district?*

The presence of the barberry was reported by 11. Most of the correspondents did not know the barberry, a cultivated shrub. It does not grow except in cultivation east of the Rocky Mountains, and is not commonly grown in gardens in western Canada though it is found in parks and gardens in some cities.

QUESTION 22. *Is fall wheat grown in your district?*

Fall wheat was reported by only six out of 388, so that the answers to the remaining questions, Nos. 23, 24 and 25, were not of much value. It would make this paper too long to discuss fully the questions raised by the schedules and the answers given. It is thought best to give the correspondents' views without much comment, and at some future time to return to this subject.

The most important information about which there was general agreement in the schedule seems to be the following:—

Wheat rust was not prevalent in 1915, but a severe outbreak occurred in 1916.

It was most severe in southern Manitoba and southeastern Saskatchewan, and less severe in northern Manitoba and northern Saskatchewan.

There was little rust in Alberta and little damage due to rust.

Frosts in August did some damage to wheat in northern Alberta and northern Saskatchewan, and the injury done by these and other causes was confounded with rust injury.

The weather conditions produced a rank growth of straw especially susceptible to rust, and the warm, rainy weather favoured the development of the rust, the cooler nights favouring infection.

The total reduction in yield was estimated at ten bushels per acre in Manitoba and eight bushels in Saskatchewan.

Early sown grain generally escaped injury, and Marquis, on account of its early maturity, was much less injured than the other varieties commonly grown.¹

COLLECTION OF ANNUAL AGRICULTURAL STATISTICS.

Readers of the Monthly Bulletin of Agricultural Statistics will be aware from articles which appeared in the April, August and September issues of last year (Vol. 10, 1917, No. 104, p. 95, No. 108, p. 208 and No. 109, p. 242), that arrangements are being made by the Dominion and Provincial Governments for the joint collection of annual agricultural statistics in replacement of the systems here-

¹The Botanical Division of the Dominion Experimental Farms issued in March, 1917, a Bulletin (No. 33, s.s.) entitled "The Black or Stem Rust of Wheat: A popular account of the Nature, Cause and Prevention of Grain Rust"; also a poster with coloured illustrations of Black Rust on Wheat and the Barberry (Circular No. 12).

tofore in force by which the Dominion and Provincial statistical authorities have been accustomed to issue independent estimates frequently at variance with each other.

EXPERIMENTAL STATISTICS OF 1917.

For the year 1917, arrangements were made between the Census and Statistics Office of the Dominion Government and the provincial Departments of Agriculture of Quebec, Saskatchewan, Alberta and British Columbia for the joint collection of agricultural statistics. These were carried through successfully, and for these four provinces, in 1917 for the first time, the estimates of area and yield and of the numbers of farm live stock were published as identical figures by both the Dominion and the respective provincial statistical authorities.

ASSISTANCE OF RURAL SCHOOL TEACHERS AND SCHOLARS.

In three of the provinces, viz., Quebec, Saskatchewan and Alberta, statistics of the areas sown to field crops, and of the numbers of farm live stock, were collected in June from individual farmers through the medium of the rural school teachers and children, who entered heartily into the work and, with the co-operation of the parents, obtained results of the greatest value. In British Columbia, returns were similarly collected from individual farmers, but were in this province distributed from and returned direct to the Government, the school system of the province not lending itself so readily to the collection of agricultural statistics as in the case of the other provinces.

Previously to 1917, no agricultural statistics were collected annually in Quebec. Estimates were however made annually for the province by the Census and Statistics Office on the basis of the figures of the preceding Census with the assistance of crop correspondents. But the results of the compilation for 1917 proved, what had previously been demonstrated in many instances, that the system of estimating areas sown by application of percentages supplied by correspondents cannot be trusted to give sufficiently accurate figures.

Much of the undoubted success which attended the efforts put forth last year in Quebec was due to the excellent and clear explanations which on several occasions were made on the part of the Quebec Statistical Office to the rural teachers respecting the duties required of them. In connection with the agricultural statistics of the present year, M. G. E. MARQUIS, Chief of the Quebec Statistical Office, has issued a brochure entitled "Un Message aux Titulaires des Ecoles Rurales de la Province de Québec", in which he summarizes the results obtained in 1917, quotes from speeches and newspapers opinions favourable to the new departure made in 1917 and concludes with the confident hope that the results to be obtained by the same methods in 1918 will be even more satisfactory than those of the previous year.

The Speech from the Throne at the opening of the Quebec Legislature on December 4, 1917, referred to the new agricultural statistics of the province in the following terms:

Hitherto statistics have hardly done justice to the agriculture of our province. It was incumbent upon the Statistical Bureau to remedy this condition of things, and with this object, during last summer, a schedule respecting our agricultural industry was distributed throughout the rural districts. The replies received are sufficient to show with approximate accuracy the area of crops under cultivation, the number and value of farm animals and the yield of cereals and fodder crops. They will also be useful as indicating how far the farmers have followed the advice and carried out the instructions given to them by the Department of Agriculture.

Equally successful results were obtained in the other three provinces of Saskatchewan, Alberta and British Columbia, each having had already in operation a system for the issue of agricultural estimates, which, together with that of the Dominion Government, called for improvement and readjustment.

ARRANGEMENTS FOR 1918.

The experience thus obtained in these four provinces of the new methods encouraged the Census and Statistics Office to proceed with negotiations for their application to the remaining provinces, viz., Prince Edward Island, Nova Scotia, New Brunswick, Ontario and Manitoba; and it is now satisfactory to be able to announce that each of these provinces has agreed to join with the Census and Statistics Office in the collection of annual agricultural statistics beginning with 1918 by means of schedules issued to and collected from individual farmers. The detailed arrangements differ somewhat according to local requirements, but in the main there is a fair division of labour between the federal and provincial Governments, the schedules comprise similar information for each province and the principle of estimation is uniformly identical. The schedule, as intended to be issued in June, calls, with slight modifications in different provinces, for the areas sown to the principal field crops as follows:

Crops.	Acres	Crops.	Acres
Fall wheat.....	Potatoes.....	.....
Spring wheat.....	Mangolds.....	.....
Oats.....	Sugar beets.....	.....
Barley.....	Other roots.....	.....
Flax.....	Fodder corn.....	.....
Rye.....	Hay and clover.....	.....
Peas.....	Alfalfa.....	.....
Beans.....	Pasture.....	.....
Buckwheat.....	Other Fodder crops.....	.....
Mixed grains.....	Fallow.....	.....
Corn for husking.....		
Other grains.....		

For live stock the following is the classification generally adopted:

Description.	No.	Description.	No.
Stallions, 2 years old and over.....		Sheep.....	
Mares, 2 years old and over.....		Swine.....	
Geldings, 2 years old and over.....		Hens.....	
Colts and fillies under 2 years.....		Turkeys.....	
		Geese.....	
Bulls for breeding.....		Ducks.....	
Milch cows.....			
Calves under 1 year.....			
Steers, 2 years old and over.....			
All other cattle.....			

The effort to obtain annually the numbers of farm horses and cattle, classified by ages, represents an improvement which will be appreciated by owners of farm live stock, especially after the lapse of a few years when comparative figures become available. Hitherto the annual estimates of the numbers of farm live stock, as published by the Dominion Government, have not been classified, except by the division of cattle into milch cows and "other cattle".

METHOD OF ESTIMATING TOTALS.

It will be noted that the filling up, annually by individual farmers, of schedules representing actual facts, constitutes the basis of the method employed for the estimation of totals. These are obtained by assuming that the areas of crops and numbers of live stock on farms from which no returns may be received are in the same proportion to the total as are those from which returns are received. The filling up of the forms is on a voluntary basis, and it follows that the larger the number of actual returns, the less is the necessity for estimation and the more accurate are the totals established. It rests therefore with the farmers of Canada, and with those who have persuasive influence in the matter, to do their part in a general effort to obtain returns numerous enough to reduce the necessity for estimation to the lowest possible limits and so to justify an increasing general confidence in the accuracy of the figures.

Correct ascertainment of the areas sown is the only sure basis for the estimation of total yields, which are arrived at by multiplying the areas sown by the average yields per acre. These average yields per acre are furnished by Dominion and Provincial crop correspondents, and under the new arrangements the Dominion and Provincial authorities will agree upon the final averages to be used; consequently the Dominion and Provincial finally-determined figures of area, yield per acre and total yield will be identical. Thus, the methods of arriving at results are not only sounder in principle than those they replace, but the issue of identical figures by both Government authorities removes the doubt and uncertainty which are necessarily created when official returns mutually conflict.

NO CONNECTION WITH PLANS OF TAXATION.

Finally, it cannot be made too clear that, as specifically stated in the directions issued to farmers for the filling up of the schedules, "the facts supplied will not be used in any way for taxation purposes nor for the imposition of any other liability¹. The suspicion on the part of farmers that the collection of agricultural statistics by government authority is connected with ulterior fiscal designs dates from the earliest attempts to gather information respecting agricultural production. Doubtless it has its roots in the individualistic character of the farming industry and in the isolation of the farmer from commercial centres and urban activities. But in many countries it has been abundantly proved that suspicion and irrational prejudice have given way to cordial appreciation by farmers of the value to themselves of the totals compiled by their individual assistance. In the present universal crisis, and for a country which like Canada occupies so important a position in the supply of human food, the necessity for accurate estimates of agricultural production is imperative. It is certain that estimates will continue to be made, and it is in the true interests of all that they should be as accurate as it is possible to make them.

To the farmers of Canada therefore who receive the cardboard schedules in June will go an appeal for their assistance in performing the simple task of filling in on the card the information required. It is confidently expected that the appeal will not be made in vain, and that the result of the general effort will be the issue of annual agricultural statistics worthy of Canada and invaluable to all who may have occasion to use them.

DOMINION EXPERIMENTAL FARMS AND STATIONS.

Central Farm, Ottawa.—February has been cold and stormy, with much less bright sunshine than usual. The highest temperature recorded is 41.4, the lowest —28.2 and the mean 9.08, while a year ago the figures were 37, —25.2 and 6.24, respectively. The precipitation totals 3.23 inches, made up of 0.86 of an inch of rain and 23.75 inches of snow, as against 1.95 inch for this period in 1917, consisting of 19.5 inches of snow. The sunshine recorded averages only 3.53 hours a day, as compared with 4.77 hours a day in 1917, and a daily average for February from 1912 to 1917 of 4.72 hours.

Charlottetown, P.E.I.—J. A. Clark, Superintendent, reports:—"Temperatures throughout February have been low, the thermometer registering below zero on fourteen different days. The monthly mean temperature is 13.6, or three degrees below the average for the last seven years. There has been a fair amount of sunshine

¹Recent newspaper statements published in Ontario to the effect that the agricultural statistics were to be collected by co-operation between the federal and provincial Governments for purposes of taxation were entirely erroneous and had absolutely no foundation in fact. They were due to an exceedingly unfortunate journalistic mistake.

on alternate days, it being unusual to have two days of bright sunshine at one time. During the month there have been four thaws, the first three of which, however, were very slight. During the last one, which began on the 25th, there occurred a heavy gale from the south-east and rain on the 26th, which took away the snow very rapidly, and would have caused floods if the water had not soaked away on account of there being practically no frost in the ground. The steers and lambs which have been fed at the Station this year have made excellent gains, and are to be sold at auction next month. Owing to the severe and continuous cold weather, feed is now reported scarce, and the prices are advancing sharply. There is a prospect of a big increase in poultry and in hogs this coming season. The ice has cleaned off, consequently farmers are being given an opportunity of moving their winter's wood and of hauling ice and mud. The car-ferry "Prince Edward Island", has made regular trips as required, from Cap Tormentine to Borden, frequently making two round trips in a day."

Kentville, N.S.—W. S. Blair, Superintendent, reports:—"February has been colder than usual, with the thermometer registering below zero on ten different days and a mean temperature of 17.5, compared with an average mean of 19.22 for this month for the four previous years. A thaw from the 13th to the 15th, took off considerable snow, but enough remained for good sleighing. The roads continued very icy until the 20th, when another thaw with 0.6 of an inch of rain melted more of the snow and ice. This was followed by cold weather and then by a rainfall of 1.15 inch on the 26th, which caused much flooding and removed most of the snow, making it necessary to use wheels instead of sleighs. The balance of the month has been fairly mild. The snowfall, distributed over six different days, aggregates 11.75 inches. On the whole, it has been fairly bright, 103.3 hours of sunshine being recorded. Owing to scarcity of mill feeds, and increased number of live stock, and continued cold, much more hay is being used by farmers for stock than formerly, and, as a result, many have not carried over enough hay to meet their requirements and will have to buy. The result is a sharp demand for hay, which is ranging at about \$16 per ton at the car. It is almost impossible to buy straw for bedding purposes, due to the fact that grain produced very short straw in 1917. The poor grain crop of 1917 is being felt very much, as regards shortage in both feed and bedding."

Nappan, N.S.—W. W. Baird, Superintendent, reports:—"The temperatures recorded during February average lower than those of the previous months of the winter, the mean being 13.05, or 1.39 degree lower than for January, and the minimum -23. The precipitation totals 3.02 inches, made up of 1.82 inch of rain recorded on five different days, and of 12 inches of snow, the aggregate fall of four different days. There have been no deep snowfalls, but from the 19th to the 20th there was a very heavy rain and wind storm, which settled the snow considerably and caused the flooding

of roads and fields and almost suspended traffic for a day. Owing to the scarcity of hay in some parts of Nova Scotia, there has been considerable stir in the market during the latter part of the month and prices on track advanced from \$13.50 to \$14.50, according to quality. All farm commodities are still commanding a high figure and a ready market is found for the same. Lumbering operations have been very brisk during the month. The work engaged in at this Farm, other than caring for the live stock and poultry, has included hauling hay and manure, crushing grain for feed, hauling and cutting wood and general repairs. All of the forty-two beef steers are making satisfactory gains and should be in good shape for market by the middle of April."

Fredericton, N.B.—W. W. Hubbard, Superintendent, reports:—"February has been a rough month, with 23 inches of snow, high winds and fourteen different days with below-zero temperatures. It is almost a record for lack of sunshine, with only 90 hours against 129 hours last year and a forty-three year average of 130 hours. The mean temperature, 10.27, while two-thirds of a degree higher than for February, 1917, is over four degrees below the average mean temperature for the past forty-three years. The roads have been poor and team work has been done at a disadvantage. The great depth of snow in the woods interfered more or less with lumbering operations. Slight thaws on the 15th, 20th and 26th settled the snow in the clearings to a considerable extent and left the beaten roads away above the surrounding snow and almost impassable for loads unless ploughed down. The Experimental Station secured one of the steel sheared planer ploughs and it was worked over the various roads nearby, to the great advantage of all who had to use them. Live stock is generally healthy and has consumed an exceptionally large quantity of fodder as against average winters. This, with the very high price of grains, and the depression in the hide, beef, and butter markets, is cutting the farmer's live stock profits to the vanishing point."

Ste. Anne de la Pocatière, Que.—Jos. Begin, Superintendent, reports:—"The weather during February has been variable, with storms and very high winds, the highest temperature recorded being 44.6, the lowest -33.6 and the mean 7.4, compared with a mean of 6.2 and extremes of 33.4 and -19 a year ago. The precipitation totals 3.4 inches, made up of 1.5 inch of rain and 19 inches of snow. The bright sunshine recorded during the month averages 3.22 hours a day, against 4 hours a day in 1917. On the 19th, lightning and thunder and a strong wind, followed by a heavy rainfall, were experienced, the rain melting about one-third of the snow. Except for a few days about the 19th, the roads have been in good shape for sleighing, and farmers have taken advantage of this to haul from the railway feed and seed needed for the spring. There is a brisk demand for grain for sowing, especially for good seed oats. At the Station, some two hundred bushels of wheat and as much of barley have been cleaned and graded; this seed grain is being sold

to farmers in small lots of one bushel or so each, to supply pure strains of varieties most adapted to this section."

Cap Rouge, Que.—G. A. Langelier, Superintendent, reports:—"In comparison with the average for the last six years, February has been colder, with more precipitation and less sunshine—the figures being as follows: for 1918, mean temperature 6.08, precipitation 3.55 inches and sunshine 64.3 hours; for the average of the last six years: mean temperature 7.8, precipitation 2.88 inches, and sunshine 81.4 hours. The greatest range has been in the temperature, the thermometer varying 78.7 degrees during the month. On the 19th, an electric storm set fire to many buildings in the district. At the Station, a good deal of attention has had to be devoted to the roads to keep them in passable shape in spite of drifting snow on many days. Other matters engaging attention, in addition to the live stock, have included the cleaning of seed grain sold to farmers, preparing seed for distribution in the spring, and repairing implements and vehicles so that they may be in good shape for spring."

Lennoxville, Que.—J. A. McClarey, Superintendent, reports:—"February has been very cold in this district, below zero being recorded on seventeen different days, the mean temperature being 9.75 against 10.16 in 1917, and the maximum 49 and the minimum -33, compared with 40 and -36, respectively, last year. The precipitation amounts to 1.77 inch, compared with 0.85 of an inch a year ago, while the sunshine aggregates 75.6 hours against 105.5 hours in 1917 and 83 hours in 1916. Fields are still very well covered with snow. The snow and wind experienced throughout the month have made the roads quite difficult to travel on at times. The first crows were observed on the 20th. The ice on the river is very thick, and it is feared damage may be caused from the same this spring if there should be much rain when the ice breaks up. Experienced farm labour is very scarce in this district, which no doubt will cause farmers much inconvenience this spring in seeding the amount of land that they would like to. However, there is every reason to feel that the farmers of the Eastern Townships realize their duty at this present time and will put forth every effort in their power to see that their farms are made to produce the maximum amount possible."

Brandon, Man.—W. C. McKillican, Superintendent, reports:—"February has been a very pleasant winter month. While some low temperatures have been recorded in the nights, the days have been nearly all bright and moderate. The mean temperature is 0.9, compared with an average mean of -3.3 for the eight previous years. There has been an absence of storms and the snowfall totals only 9 inches. The total snowfall for the winter up to the end of February aggregates 25.5 inches, as compared with 49.5 inches a year ago. The last four days of the month have been quite warm and the fields are getting bare in spots. At the Experimental Farm

the work engaging attention has included the care of the live stock and the preparation of seed."

Indian Head, Sask.—W. H. Gibson, Superintendent, reports:—"The weather during February has been clear and moderately cold, with light falls of snow on the 2nd, 7th and 24th. From the 22nd to the 24th, the temperature was quite mild and some of the summer fallows were almost bare of snow. The work engaging attention at the Experimental Farm has included cleaning seed grain, crushing feed for stock, hauling hay and manure, and caring for stock and poultry."

Rosthern, Sask.—Wm. A. Munro, Superintendent, reports:—"The sixty steers in the experimental feeding test are continuing to do well. They have held their own during the severe weather, and make appreciable gains when there is a mild spell. There has been no hay available, and their feed consists of barley straw and mixed oat and barley chop. Sufficient hay has been secured to feed them for a month previous to their sale. The roads have been in remarkably good condition and as much wheat has been delivered as cars could be obtained for. There has been a scarcity of coal experienced in the district, but the shortage has not been great enough to be serious."

Scott, Sask.—M. J. Tinline, Superintendent, reports:—"The mean temperature for February is 2.93, which is lower than usual. The records show a total of only 18.7 inches of snow for the winter; but, owing to the fact that comparatively little snow has melted, there is considerable on the ground. In addition to this, the snow has a hard crust and stockmen have had to feed larger quantities of roughage than usual, and many of them are reporting that they will have barely sufficient feed to bring their stock through the winter. At the Station, both wheat and oat straw have been extensively used for feeding the horses and the feeder steers. The straw appears to be of higher feeding value than usual, no doubt due to the peculiar weather conditions experienced during the past season."

Lacombe, Alberta.—G. H. Hutton, Superintendent, reports:—"The weather during February has been cold, the minimum temperature for the month being -41.6. The snowfall has not been particularly heavy, but high winds have been responsible for a large amount of drifting, and the roads are built up to a considerable height in many places. Live stock continue to make unusually heavy demands on feed, but the supply of fodder in this part of Alberta is sufficient to carry through the stock on hand in satisfactory condition. Prices for finished cattle and for hogs continue high, the record February mark at country points being \$18.50. The demand for breeding sheep continues strong, with a very limited supply available."

Lethbridge, Alberta.—W. H. Fairfield, Superintendent, reports:—"The weather during February has been marked by great extremes in temperature. The warmest day during the month was on the 9th, when 54.5 was reached. At this time there were several nights

when it did not freeze, but, later on in the month, a cold spell was experienced and the thermometer went down to -41 on the 20th. The snowfall of the month amounts to nearly 8 inches, but, on account of heavy winds following each storm and the snow drifting badly, the moisture will not be evenly distributed in the soil. Stockmen on the range have been forced to feed more hay than is usual for this month. Sheep men who have not had ample hay on hand report that their stock have gone back somewhat, but the condition of cattle seems to be good. At the Station, the cattle and lambs in the experimental feeding tests have made excellent gains."

Invermere, B.C.—G. E. Parham, Superintendent, reports:—"The cold snap which started on the last day of January continued until February 3rd, when milder weather ensued. From the 16th to the 28th, however, a further cold spell was experienced, the mean minimum temperature for that period being -8.4 . The snowfall of the month aggregates 11.5 inches, bringing the total fall for the winter up to the exceptional figure of 46 inches. At the Experimental Station, good progress has been made in clearing new land; and a large quantity of manure has been hauled in from one of the mining camps, and will be ploughed under during the spring. A Berkshire boar, recently received from Lacombe Experimental Station, has been placed at the service of local swine raisers. The conditions for horses out on range are poor, the unusual depth of snow making it difficult for them to find a living; and breeders who have been able to do so have brought their horses in to feed."

Summerland, B.C.—R. H. Helmer, Superintendent, reports:—"February has been the coldest month of the winter. The snowfall aggregates 4.5 inches, but little of it remains. Stockmen in the district are getting very short of hay. The pruning of trees is general in the district. Interest is being shown in the production of seeds, and a start will be made in seed-raising in several places in the Okanagan Valley. The principal work at this Station has been feeding stock, cleaning grain, attending to roads, hauling cordwood and spreading manure. There has been a great shortage of dry cordwood in here and coal has been very hard to get. During the winter a good supply of wood has been cut throughout the valley. There has been a big fall of snow in the mountains this winter, which should fill the reservoirs."

Agassiz, B.C.—W. H. Hicks, in charge, reports:—"The February precipitation totals 7.02 inches, which is greater than recorded during that month of any year since 1912. Rain fell every day during the first thirteen days, then followed an interval of ten days with no precipitation, while the remainder of the month has been wet again. Very little snow has fallen. The mean temperature is four degrees higher than for the corresponding period of last year. The work on the Experimental Farm has included hauling manure, getting up wood, threshing and caring for live stock and poultry."

Sidney, Vancouver Island, B.C.—Lionel Stevenson, Superintendent, reports:—"The meteorological record for February was

as follows: Maximum temperature 51, minimum temperature 24, rainfall 4.43 inches, snowfall 3.5 inches and bright sunshine 82.7 hours. Considerable work has been accomplished on the farms of the district,—ploughing, manure hauling, orchard pruning, drainage and potato sorting and shipping have occupied much of the attention of those on the land. During the last two weeks of the month clover seed has been sown on fall wheat land. Rye, wheat, oats, barley, peas and vetches have wintered well. Autumn set seed roots, where planted on level land, have wintered without injury. During the month many incubators have been started and considerable activity in poultry has been noticed. There has been a heavy demand for hatching eggs. The live stock of the district came through the month in good condition. The demand for dairy and meat products has been keen and high prices have prevailed. Some early garden work was started during the closing days of the month."

Meteorological Record for February, 1918.

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of February are given in the following table:—

Experimental Farm or Station at—	Degrees of Temperature F.			Precipitation in inches.	Hours of Sunshine.	
	High-est.	Low-est.	Mean.		Pos-sible.	Actual.
Ottawa, Ont.....	41.4	-28.2	9.08	3.23	292	99.0
Charlottetown, P.E.I.....	45.0	-14.0	13.61	3.73	289	104.3
Kentville, N.S.....	52.0	-13.0	17.50	3.45	292	103.3
Nappan, N.S.....	50.0	-23.0	13.05	3.02	292	88.9
Fredericton, N.B.....	48.0	-25.5	10.27	3.40	290	89.9
Ste. Anne de la Pocatière, Que.....	44.6	-33.6	7.40	3.40	288	90.4
Cap Rouge, Que.....	44.0	-34.7	6.08	3.55	287	64.3
Lennoxville, Que.....	49.0	-33.0	9.75	1.77	291	75.6
Brandon, Man.....	39.5	-38.0	0.90	0.90	283	132.3
Indian Head, Sask.....	40.0	-37.0	8.22	0.72	282	85.3
Rosthern, Sask.....	37.3	-42.5	-0.90	0.40	275	146.0
Scott, Sask.....	38.2	-43.0	2.93	0.49	276	111.1
Lacombe, Alberta.....	47.8	-41.6	11.10	0.60	278	119.7
Lethbridge, Alberta.....	54.5	-41.0	17.40	0.76	284	124.8
Invermere, B.C.....	46.0	-27.0	13.52	1.22	282	80.9
Summerland, B.C.....	48.0	4.0	27.87	0.46	283	86.3
Agassiz, B.C.....	51.0	19.0	36.49	7.02	285	75.4
Sidney, Vancouver I., B.C.....	51.0	24.0	37.22	4.78	286	82.7

Ottawa, March 15, 1918.

J. H. GRISDALE,
Director Experimental Farms.

FARM CONDITIONS IN ONTARIO.

The Ontario Department of Agriculture reports (March 18) that farmers generally are reported to be more alert than ever before in making preparations for spring work. According to the Haldimand Representative a maximum effort is being put forth in that county to stimulate the production of spring wheat this year. This is all the more necessary, as the present prospects of the fall wheat crop are not encouraging owing to so much ice having formed recently on low-lying fields. There has been less fattening than usual, most of the cattle being carried over on a maintenance ration until pasture is ready. As a consequence many beeves have been disposed of under the usual weight. Stockers are hard to secure, some feeders having to purchase young animals from the city stockyards. Dairy cows continue in strong demand, more sales of good grades being reported at prices ranging from \$75 to \$150. The milk supply is holding up well, as a considerable number of cows are now freshening. The hog campaign is being well sustained generally—"better than the feed situation would warrant", says one report. The "Keep a Pig" movement is now being organized in a number of towns and villages. Prices of pork are at their highest, varying from \$18.50 to \$19.75 a cwt. according to locality.

The marketing of farm produce continues to be slow owing to the bad condition of the roads and also to the fact that most of the grains are needed for feeding on the farm because of the scarcity and high price of mill feeds, etc. Oats are bringing from 90 cents to \$1.15, while hay, which is plentiful, is quoted all the way from \$12 to \$18, according to quality and access to market. The corn situation is commanding much attention. The crop has become much depleted both in the bin and in the silo, and many farmers are worried over the poor prospects for getting a supply of first-class seed. The Northumberland Representative reports that those who stored apples last fall and have held on to them are likely to suffer considerable loss owing to the recent decline in prices. Representatives are receiving many inquiries for all classes of farm help. Applications for employment are also being received, more married men than usual offering, as work is apparently growing slacker in some of the towns. One report states that while some farmers are skeptical about using inexperienced farm labour, others are ready to try out any who are willing to assist.

CROP REPORTS FROM OTHER COUNTRIES.

England and Wales.—The Board of Agriculture reports (March 1) that the autumn sown wheat is everywhere looking well and promising, especially in the west, where in a few places it is regarded as being almost too forward. Winter oats are generally also a good and promising crop. Beans are rather more variable, the plant being thin in a few districts, but otherwise healthy and satisfactory. The weather during February was very favourable to field work, having

been universally mild and open, though with rather too much rain in some of the northern districts. Ploughing and cultivation accordingly made rapid progress, and much spring wheat was got in under favourable conditions. Wheat sowing is not yet completed, and another 10 per cent of the total wheat area probably still remains to be sown, but this work is more nearly finished in the east than in the west. In most districts some oats and barley have also been got in, but the seeding of these cereals is generally only just beginning. Spring work is well forward for the time of year. Labour is still very deficient, especially the more skilled, in spite of the assistance of soldiers and women.

India.—According to the first forecast of winter oil seeds, issued (December 29, 1917) by the Indian Department of Statistics, the total area under linseed in India for the season of 1917-18 is 2,827,000 acres, as compared with 2,627,000 acres in 1916-17, an increase of 200,000 acres, or 8 p.c. The total estimated area under rape and mustard is 3,892,000 acres, as against 3,888,000 acres in 1916-17, an increase of 4,000 acres.

New South Wales.—The Government Statistician reports (February 2) that the estimated production of wheat in the State for the year 1917-18 is 43,557,000 bushels from 3,280,600 harvested acres, an average of $13\frac{1}{4}$ bushels per acre, as compared with 36,600,000 bushels from 3,521,300 acres, or 10.4 bushels per acre in 1916-17. Owing to the difficulties attending the disposal of the wheat crop during recent years, the carry-over of breadstuffs each season has been very heavy. The stocks of old seasons' wheat and flour (in the equivalent of wheat), held in New South Wales at the end of November, 1917, by millers, bakers, storekeepers, produce merchants, farmers, etc., was 3,307,000 bushels. In addition, there were 25,421,000 bushels stacked at country railway stations, Darling Island, and the other Metropolitan depots, making a total carry-over from the seasons 1915-16 and 1916-17 of 28,668,000 bushels, a quantity nearly equal to two years' requirements for food and for seed. Adding the latter figures to an estimated production during 1917-18 of 43,557,000 bushels, and allowing 15,225,000 bushels for local consumption and for seed requirements, there should be available not less than 57 million bushels for export, either as wheat, or as its equivalent in flour.

New Zealand.—The Government Statistician reports (February 14) that the yield of wheat for 1917-18 is approximately 7,800,000 bushels, as compared with an actual yield of 5,051,227 bushels in 1916-17.

France.—The French Department of Agriculture has reported on the condition of fall sown crops in France at February 1, and the following points are assigned as the average for the whole country: wheat 71 (62); meslin 72 (65); rye 72 (67); barley 70 (65); oats 68 (66). The scale used for expressing condition is one in which 100 equals "very good," 99 to 80 "good" and 79 to 60 "fair." The figures within brackets are those of February 1 in 1917, and the

condition for this year is therefore decidedly better than last year. Moreover, it is stated that the highest figures expressing condition, especially for wheat, apply to the districts of greatest production.

United States.—The Crop Reporting Board of the U.S. Department of Agriculture estimated (March 8) that the amounts of grain in farmers' hands on March 1, 1918, were approximately in thousands of bushels as follows:

Grain in Farmers' Hands in United States on March 1, 1915-18.

Grain.	In farmers' hands March 1, 1915.	Per cent of 1914 crop.	In farmers' hands March 1, 1916.	Per cent of 1915 crop.	In farmers' hands March 1, 1917.	Per cent of 1916 crop.	In farmers' hands March 1, 1918.	Per cent of 1917 crop.
	000 bush.	p.c.	000 bush.	p.c.	000 bush.	p.c.	000 bush.	p.c.
Wheat.....	152,903	17.2	244,448	23.8	100,650	15.8	111,272	17.1
Corn.....	910,894	34.1	1,116,559	37.3	782,303	30.5	1,292,905	40.9
Oats.....	379,369	33.2	598,148	38.6	394,211	31.5	595,195	37.5
Barley.....	42,889	22.0	58,301	25.5	33,244	18.2	43,404	20.8

The following statement compares the price of these crops on March 1, 1918, as compared with March 1, 1916 and 1917:

Crop.	March 1, 1916.	March 1, 1917.	March 1, 1918.
	\$ c.	\$ c.	\$ c.
Wheat.....	1 03	1 64	2 03
Corn.....	0 68	1 01	1 54
Oats.....	0 43	0 57	0 86
Barley.....	0 60	0 97	1 61

The proportion of the 1917 crop which is merchantable is about 60.3 p.c. (equivalent to 1,905,723,000 bushels), against 83.9 p.c. (2,154,487,000 bushels) of the 1916 crop and 71.1 p.c. (2,127,965,000 bushels) of the 1915 crop.

International Institute of Agriculture.—The Monthly Bulletin of Agriculture and Commercial Statistics for January, 1918, reports that the area sown to flaxseed in Argentina for 1917-18 is 3,232,200 acres, as against 3,206,000 acres in 1916-17 and 4,191,800 acres, the average during the five years 1911-12 to 1915-16, or respectively 100.8 p.c. and 77.1 p.c. of the two last-mentioned areas. In New Zealand the number of sheep on April 30, 1917, was 25,270,386, as compared with 24,788,150 on the same date in 1916, an increase of 482,236, or 1.9 p.c.

A cablegram received from the Institute on March 27 reports that the production of wheat in Australia for the year 1917-18 is 122,586,000 bushels, a decrease of 30,000,000 bushels, or 19.4 p.c., as compared with 1916-17, but an increase of 28,000,000 bushels, or 30 p.c., as compared with the average for the previous five years.

The wheat crop of Uruguay is 12,861,000 bushels, an increase of 7,450,000 bushels, or 138.6 p.c. over the previous year, and an increase of 6,150,000 bushels, or 91.6 p.c., as compared with the quinquennial average.

Corn in the Union of South Africa amounts to 30,716,000 bushels, a decrease of 4,280,000 bushels, or 12 p.c., as compared with the previous year, but the production is 3 p.c. more than the five-year average.

The production of oats in New Zealand is 5,732,000 bushels, or 8.6 p.c., less than the previous year, but 9,660,000 bushels, or 63 p.c., less than the five-year average.

Crop conditions on March 1 were described as good in Spain, France and Great Britain; fairly good in Switzerland; average in Ireland, Italy and Egypt and bad in Japan.

INFLUENCE OF THE WEATHER UPON FARM CROPS.

An article in the Census and Statistics Monthly of July, 1916, (Vol. 9, No. 95, p. 196) described certain developments respecting agricultural meteorology in foreign countries, especially Russia, and reference was also made therein to the establishment of a new Section of Agricultural Meteorology by the Dominion Meteorological Service at Toronto. The object of this Section, which is now in charge of Mr. A. J. CONNOR, M.A., is to study scientifically the effects of meteorological phenomena upon the growth and yield of field crops. Records for the purpose are being taken by officers of the Dominion Experimental Farms.

As observations on the effects of the weather upon agricultural crops necessarily form an important part of the general remarks made by crop correspondents in their monthly reports to the Census and Statistics Office, it is considered advisable that these should in future be, as far as possible, systematized and correlated with the work of the Dominion Meteorological Office and of the Dominion Experimental Farms.

Accordingly, as the result of communications between the Census and Statistics Office and Sir FREDERICK STUPART, Director of the Dominion Meteorological Service, arrangements have been made by which, during the growing season from May to September, the crop correspondents of the Census and Statistics Office will be asked to observe and record the following natural phenomena respecting wheat: (1) date of appearance above ground; (2) date of first general sowing; (3) dates of heading, flowering and reaching of milk stage and (4) date of first cutting, date when cutting is general and date of completion of cutting.

The replies of correspondents to these questions, as received month by month, will be summarized for publication in the Monthly Bulletin of Agricultural Statistics; and they will also be communicated to the Dominion Meteorological Office for the purposes of the special studies undertaken by the new Branch of Agricultural Meteorology. The results of these studies as they are completed will be available for publication in the Monthly Bulletin of Agricultural Statistics.

It is confidently anticipated that the crop correspondents of the Census Office will readily acquiesce in the plans proposed; and it is believed that in the course of time the results obtained by collaboration of the three Departments concerned may throw considerable light upon the influence of the weather upon crop growth. They may possibly furnish valuable guidance to farmers for the adjustment of cultivation processes in correspondence with average weather conditions, with a view to improve the yield and quality of farm crops.

WEATHER OF THE YEAR 1917.

Weather of the Year 1917 at Canadian Stations, compared with Normal Annual Averages for the period 1888 to 1907.

Stations.	Degrees of Temperature F.						Hours of sunshine.	
	mean winter	mean summer	lowest in year	highest in year	mean annual	normal (1888-1907)	1917	normal annual
British Columbia—								
Victoria.....	40.8	58.0	13.0	82.0	48.4	50.3	2,094	1,822
Vancouver.....	39.0	61.1	10.3	82.6	48.8	49.1	1,855	1,815
Kamloops.....	26.8	67.2	-26.0	98.5	45.6	47.7	2,060	1,868
Alberta—								
Calgary.....	19.8	60.0	-36.0	91.0	38.0	37.4	—	—
Edmonton.....	12.6	59.2	-50.0	86.0	34.6	36.7	2,199	2,081
Saskatchewan—								
Battleford.....	7.1	63.0	-45.0	94.0	33.6	34.4	—	2,101
Prince Albert.....	5.5	61.7	-50.0	92.0	32.2	32.1	—	—
Qu'Appelle.....	8.2	61.4	-47.0	101.5	33.0	34.5	—	—
Manitoba—								
Minnedosa.....	6.5	62.2	-43.1	98.8	32.2	34.1	—	—
Winnipeg.....	7.1	64.0	-37.7	94.1	33.5	34.9	2,045	2,178
Ontario—								
Port Arthur.....	12.5	58.6	-34.0	89.0	34.0	35.7	—	—
White River.....	4.0	55.6	-51.0	91.0	28.0	32.3	—	—
Parry Sound.....	17.2	63.9	-34.0	93.0	38.4	41.3	—	—
Southampton.....	22.1	62.3	-26.1	93.9	39.9	43.8	—	—
Toronto.....	25.2	66.3	-17.0	98.0	43.2	45.5	1,990	2,048
Kingston.....	21.0	65.5	-21.3	88.3	41.3	43.7	1,797	1,989
Stonecliff.....	13.7	66.6	-38.0	94.0	38.0	38.5	—	—
Ottawa.....	15.7	66.7	-31.0	97.5	38.9	43.0	2,029	1,874
Quebec—								
Montreal.....	17.0	67.3	-24.5	95.8	39.5	42.3	1,762	1,805
Quebec.....	14.4	64.6	-31.5	91.2	36.9	38.7	1,538	1,762
Sherbrooke.....	15.5	65.3	-37.0	96.7	38.0	—	1,465	1,843
Father Point.....	14.2	57.0	-23.1	83.2	33.7	35.1	—	—

Weather of the Year 1917 at Canadian Stations, compared with Normal Annual Averages for the period 1888 to 1907—concluded.

Stations.	Degrees of Temperature F.						Hours of sunshine.	
	mean winter	mean summer	lowest in year	highest in year	mean annual	normal (1888-1907)	1917	normal annual
New Brunswick—								
Chatham.....	17.5	65.7	-23.0	95.5	38.6	40.3	—	—
Fredericton.....	17.6	64.6	-25.0	91.5	38.6	40.5	1,713	1,978
St. John, N.B.....	22.4	59.3	-19.7	86.2	39.3	41.6	—	—
Nova Scotia—								
Yarmouth.....	28.4	58.9	0.8	80.1	41.8	43.8	—	—
Halifax.....	26.8	62.9	-8.8	85.8	42.8	44.3	—	—
Sydney.....	26.4	62.5	-14.5	89.5	42.3	42.4	—	—
Prince Edward Island—								
Charlottetown.....	22.7	65.0	-19.0	87.0	41.1	42.0	1,727	1,896

NOTE.—The mean winter temperature is based on the records of January, February, March, November and December, and the mean summer temperature is based on those of June, July and August.

Precipitation in inches.

Station.	1917			Normal (1888-1907).		
	rain.	snow.	total.	rain.	snow.	total.
British Columbia—						
Victoria.....	27.39	33.9	30.78	31.41	11.6	32.57
Vancouver.....	54.00	72.5	61.25	57.88	23.2	60.20
Kamloops.....	7.12	41.5	11.27	8.00	26.2	10.62
Alberta—						
Calgary.....	6.76	46.8	11.44	11.70	46.0	16.30
Edmonton.....	9.60	56.5	15.25	14.18	40.2	18.20
Saskatchewan—						
Battleford.....	4.46	37.4	8.20	11.05	27.4	13.79
Prince Albert.....	5.42	51.9	10.61	11.62	49.8	16.60
Qu'Appelle.....	8.36	83.3	16.69	13.44	54.0	18.84
Manitoba—						
Minnedosa.....	5.04	66.6	11.70	12.79	45.7	17.36
Winnipeg.....	9.78	39.8	13.76	15.62	51.9	20.81
Ontario—						
Port Arthur.....	11.31	36.2	14.93	19.01	44.5	23.46
White River.....	14.37	99.9	24.36	17.36	93.5	26.71
Parry Sound.....	27.52	173.9	44.91	29.38	115.6	40.94
Southampton.....	25.24	126.6	37.90	21.64	116.0	33.24
Toronto.....	28.23	61.7	34.40	25.28	61.0	31.38
Kingston.....	26.07	74.6	33.53	24.01	74.8	31.49
Stoneycliffe.....	12.39	69.3	19.32	21.69	82.6	29.95
Ottawa.....	22.49	127.6	35.25	24.70	87.0	33.40
Quebec—						
Montreal.....	33.17	115.2	44.69	29.37	122.7	41.64
Quebec.....	32.53	155.9	48.12	27.17	132.9	40.46
Sherbrooke.....	21.80	101.0	31.90	27.19	116.7	38.86
Father Point.....	24.77	98.5	34.62	23.21	109.6	34.17

Precipitation in inches—concluded.

Station.	1917			Normal (1888-1907).		
	rain.	snow.	total.	rain.	snow.	total.
New Brunswick—						
Chatham.....	38.09	106.4	48.73	27.65	119.9	39.64
Fredericton.....	36.70	112.5	47.95	33.73	104.6	44.19
St. John.....	37.91	85.0	46.41	36.68	84.3	45.11
Nova Scotia—						
Yarmouth.....	41.12	88.6	49.98	42.46	84.2	50.88
Halifax.....	44.93	72.0	52.13	49.43	76.7	57.10
Sydney.....	45.92	95.5	55.47	41.10	92.8	50.38
Prince Edward Island—						
Charlottetown.....	32.20	81.8	40.38	29.97	101.8	40.15

THE WEATHER DURING FEBRUARY.

The Dominion Meteorological Service reports that the temperature was above the average from the Rocky Mountains to the western shores of Lake Superior, and below the average elsewhere over the Dominion. The positive departures varied from 1° to 3.5°, and the negative from 1° to 6°. The precipitation was everywhere above the average amount except at a few points in the interior of British Columbia, and over the larger portions of Alberta, Saskatchewan and Manitoba, where there was a very slight deficit. The chief positive departures occurred in southern and eastern Ontario and in southern New Brunswick, and over Nova Scotia, and varied from one to one and three-quarter inch. In northern British Columbia snow covered the ground to a depth of over 40 inches. In the western provinces the covering was from 3 to 4 inches in southern localities, and from 12 to 30 inches in the northern parts. In Ontario it was from 30 to 40 inches in northern and eastern regions, and from 6 to 8 inches in the extreme southern districts. In Quebec it was from 14 to 48 inches, and in the Maritime Provinces from a trace along the south coasts to over 36 inches in the northern parts.

PRICES OF AGRICULTURAL PRODUCE, 1918.

EXPLANATORY NOTES.—(1) The weekly range of prices of Canadian grain at Winnipeg and Fort William (Table I) is furnished by the Board of Grain Commissioners for Canada and covers the weeks ended Saturday. (2) The monthly range of prices of grain at selected markets in the United States (Table II) is taken from the Monthly Crop Report of the U.S. Department of Agriculture. (3) The prices of imported grain and flour at British markets (Table III) are taken from the Market Supplements of the "Mark Lane Express" for London, and represent the range at the weekly Monday Market; for Liverpool the prices are taken from "Broomhall's Corn Trade News," and represent the range for cash on Tuesday of each week. (4) The average prices for British-grown grain (Table IV) are computed from returns received under the Corn Returns Act, 1882, and are as published in the "London Gazette." (5) The rate employed for conversion from English to Canadian currency is \$4.86½ to the £ sterling. For grain the British measures have been converted to Canadian measures of the legal weights per bushel, viz., 60 lb. wheat, 48 lb. barley, 34 lb. oats, and for other produce from long cwt. of 112 lb. to short cwt. of 100 lb.

I. Weekly Range of Cash Prices per bushel of Canadian Grain at Winnipeg and Fort William, 1918.

Grain and Grade.	Feb. 2.	Feb. 9.	Feb. 16.	Feb. 23.
	\$ c.	\$ c.	\$ c.	\$ c. \$ c.
Wheat—				
No. 1 Nor.....	2 21	2 21	2 21	2 21 —
No. 2 Nor.....	2 18	2 18	2 18	2 18 —
No. 3 Nor.....	2 15	2 15	2 15	2 15 —
No. 4.....	2 08	2 08	2 08	2 08 —
No. 5.....	1 96	1 96	1 96	1 96 —
No. 6.....	1 87	1 87	1 87	1 87 —
Feed.....	1 72	1 72	1 71	1 70 —1 72
Oats—				
No. 2 C.W.....	0 89 —0 90½	0 88½ —0 90	0 87½ —0 90½	0 89½ —0 97½
No. 3 C.W.....	0 83½ —0 84½	0 84½ —0 85	0 84½ —0 87½	0 87½ —0 95½
No. 1 Feed Ex.....	0 83 —0 84½	0 83½ —0 84	0 84½ —0 86½	0 86½ —0 93½
No. 1 Feed.....	0 79½ —0 81½	0 80 —0 81	0 81 —0 83½	0 83 —0 90
No. 2 Feed.....	0 76 —0 77½	0 76½ —0 78	0 78 —0 80½	0 80 —0 87½
Barley—				
No. 3 C.W.....	1 49 —1 56½	1 55½ —1 60	1 56½ —1 62½	1 62½ —1 68½
No. 4 C.W.....	1 44 —1 51½	1 50½ —1 55	1 51½ —1 57½	1 57½ —1 63½
Rejected.....	1 25 —1 28	1 28 —1 30	1 25 —1 32	1 32 —1 38
Feed.....	1 24 —1 28	1 28 —1 30	1 25 —1 31	1 31 —1 36
Flax—				
No. 1 N.W.C.....	3 21 —3 25	3 25 —3 28½	3 29½ —3 40	3 44½ —3 52
No. 2 C.W.....	3 17½ —3 21½	3 21 —3 24½	3 25½ —3 36½	3 41½ —3 48½
No. 3 C.W.....	3 01 —3 05	3 04 —3 07½	3 08½ —3 16	3 23½ —3 31

II. Monthly Range of Prices per bushel of Grain at Selected Markets in the United States, 1917-18.

Grade and Market.	November.	December.	January.	February.
	\$ c. \$ c.	\$ c. \$ c.	\$ c. \$ c.	\$ c. \$ c.
Wheat, Red Winter, No. 2—				
St. Louis.....	2 15 —	2 15 —	2 15 —	2 15 —
Chicago.....	2 17 —	2 17 —	2 17 —	2 17 —
New York (f.o.b. afloat).....	2 25 —	2 26 —	2 26 —	2 26 —
Corn, No. 2, mixed—				
St. Louis.....	1 95 —1 97	1 75 —	1 75 —	— —
New York (f.o.b. afloat).....	2 16 —	— —	— —	— —
Corn No. 2—				
Chicago.....	2 16 —2 22	1 80 —1 85	1 80 —1 85	1 75 —1 80
Oats No. 2—				
St. Louis.....	0 58½ —0 59½	0 80 —	0 80 —	0 86½ —
Chicago.....	0 58½ —0 60½	0 78½ —0 79	0 78½ —0 79	0 80½ —0 81½
Rye, No. 2—				
Chicago.....	1 76 —1 77½	1 82 —1 84	1 82 —1 84	2 10 —2 18

III. Range of Prices of Imported Grain and Flour at British Markets, 1918.

MARK LANE, LONDON, E.C.

Description.	Feb. 4.	Feb. 11.	Feb. 18.	Feb. 25.
	\$ c.	\$ c.	\$ c.	\$ c.
Wheat (per bush.)—				
Canadian No. 1.....	2 42 $\frac{3}{4}$	2 42 $\frac{3}{4}$	2 42 $\frac{3}{4}$	2 42
“ No. 2.....	2 37 $\frac{1}{2}$	2 37 $\frac{1}{2}$	2 37 $\frac{1}{2}$	2 37
“ No. 3.....	2 30 $\frac{1}{4}$	2 30 $\frac{1}{4}$	2 30 $\frac{1}{4}$	2 30 $\frac{1}{4}$
“ No. 4.....	2 20 $\frac{3}{4}$	2 20 $\frac{3}{4}$	2 20 $\frac{3}{4}$	2 20 $\frac{3}{4}$
“ No. 5.....	2 17 $\frac{3}{4}$	2 17 $\frac{3}{4}$	2 17 $\frac{3}{4}$	2 17 $\frac{3}{4}$
American—				
Spring.....	2 35 $\frac{1}{2}$ —2 38 $\frac{1}{2}$	2 35 $\frac{1}{2}$ —2 38 $\frac{1}{2}$	2 35 $\frac{1}{2}$ —2 38 $\frac{1}{2}$	2 35 $\frac{1}{2}$ —2 38 $\frac{1}{2}$
Hard Winter.....	2 32 $\frac{1}{2}$ —2 35 $\frac{1}{2}$	2 32 $\frac{1}{2}$ —2 35 $\frac{1}{2}$	2 32 $\frac{1}{2}$ —2 35 $\frac{1}{2}$	2 32 $\frac{1}{2}$ —2 35 $\frac{1}{2}$
Red Winter.....	2 26 $\frac{1}{2}$ —2 32 $\frac{1}{2}$	2 26 $\frac{1}{2}$ —2 32 $\frac{1}{2}$	2 26 $\frac{1}{2}$ —2 32 $\frac{1}{2}$	2 26 $\frac{1}{2}$ —2 32 $\frac{1}{2}$
Australian.....	2 48 —	2 48 —	2 48 —	2 48 —
Indian—				
White.....	2 47 $\frac{1}{2}$ —	2 47 $\frac{1}{2}$ —	2 47 $\frac{1}{2}$ —	2 47 $\frac{1}{2}$ —
Red.....	2 41 $\frac{1}{2}$ —2 44 $\frac{1}{2}$	2 41 $\frac{1}{2}$ —2 44 $\frac{1}{2}$	2 41 $\frac{1}{2}$ —2 44 $\frac{1}{2}$	2 41 $\frac{1}{2}$ —2 44 $\frac{1}{2}$
Californian.....	2 38 $\frac{1}{2}$ —2 44 $\frac{1}{2}$	2 38 $\frac{1}{2}$ —2 44 $\frac{1}{2}$	2 38 $\frac{1}{2}$ —2 44 $\frac{1}{2}$	2 38 $\frac{1}{2}$ —2 44 $\frac{1}{2}$
Argentine.....	2 41 $\frac{1}{2}$ —2 42 $\frac{1}{2}$	2 42 $\frac{1}{2}$ —	2 41 $\frac{1}{2}$ —	2 41 $\frac{1}{2}$ —
Oats (per bush.)—				
Canadian.....	1 65 $\frac{1}{2}$ —1 68	1 65 $\frac{1}{2}$ —1 68	1 65 $\frac{1}{2}$ —1 68	1 65 $\frac{1}{2}$ —1 68
American.....	1 57 $\frac{1}{2}$ —1 60 $\frac{1}{2}$	1 57 $\frac{1}{2}$ —1 60 $\frac{1}{2}$	1 57 $\frac{1}{2}$ —1 60 $\frac{1}{2}$	1 57 $\frac{1}{2}$ —1 60 $\frac{1}{2}$
Chilian.....	1 91 $\frac{1}{2}$ —1 98 $\frac{1}{2}$	1 91 $\frac{1}{2}$ —1 98 $\frac{1}{2}$	1 94 —1 96 $\frac{1}{2}$	1 94 —1 96 $\frac{1}{2}$
Flour (per 280 lb.)—				
Canadian.....	12 21—12 60	12 21—12 60	12 21—12 60	12 21—12 60
American.....	12 21—12 60	12 21—12 60	12 21—12 60	12 21—12 60

LIVERPOOL.

Description.	Jan. 2.	Jan. 8.	Jan. 15.	Jan. 22.	Jan. 29.
	\$ c.	\$ c.	\$ c. \$ c.	\$ c. \$ c.	\$ c. \$ c.
Wheat (per bush.)—					
Blue Stem.....	2 33	2 33	— —	— —	— —
Nor. Man. No. 1.....	2 32 $\frac{1}{2}$	2 32	— —	— —	— —
Oats (per bush.)—					
Chilian tawny.....	1 62 $\frac{1}{2}$ —	1 62 $\frac{1}{2}$ —1 64	1 62 $\frac{1}{2}$ —1 64	— —	— —
Amer. clipped, white.....	1 59 $\frac{1}{2}$ —	1 59 —1 60 $\frac{1}{2}$	1 59 $\frac{1}{2}$ —1 60 $\frac{1}{2}$	1 59 $\frac{1}{2}$ —1 60 $\frac{1}{2}$	1 59 —1 60 $\frac{1}{2}$
Can. western No. 2.....	1 65 $\frac{1}{2}$ —	1 67 —	— —	— —	— —
Flour (per 280 lb.)—					
Manitoba.....	12 60	12 60	12 60	12 60	12 60
Kansas.....	12 60	12 60	12 60	12 60	12 60

Description.	Feb. 5.		Feb. 12.	Feb. 19.	Feb. 26.
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat (per bush.)—					
Nor. Manitoba No. 4.....	—	—	2 20½	2 20½	2 20½
Hard Winter No. 2.....	—	—	2 32½	2 32½	2 32½
Oats—					
Amer. clipped, white.....	1 59½	1 60½	—	—	—

IV. Average Prices of British-grown Grain, 1917-18.

Week ended—	Wheat.		Barley.		Oats.	
	per quarter.	per bushel.	per quarter.	per bushel.	per quarter.	per bushel.
1917.	s. d.	\$	s. d.	\$	s. d.	\$
October 6.....	70 8	2.150	57 9	1.686	44 9	1.168
“ 13.....	71 0	2.160	58 5	1.706	44 5	1.176
“ 20.....	70 8	2.150	59 3	1.730	44 1	1.169
“ 27.....	70 10	2.155	60 1	1.754	43 0	1.139
Average.....	70 10	2.154	58 11	1.719	44 1	1.163
November 3.....	70 4	2.139	60 1	1.827	43 0	1.308
“ 10.....	70 3	2.136	60 2	1.829	42 11	1.305
“ 17.....	70 3	2.136	60 2	1.829	43 0	1.308
“ 24.....	70 2	2.134	59 9	1.817	43 1	1.310
Average.....	70 3	2.136	60 0	1.825	43 0	1.308
December 1.....	70 2	2.134	59 3	1.801	44 6	1.352
“ 8.....	70 7	2.151	58 7	1.781	43 5	1.320
“ 15.....	71 2	2.164	58 0	1.763	43 6	1.322
“ 22.....	71 1	2.162	57 7	1.751	44 2	1.343
“ 29.....	71 1	2.162	57 7	1.751	44 10	1.363
Average.....	70 10	2.155	58 2	1.769	44 1	1.338
1918.						
January 5.....	71 2	2.164	58 0	1.764	45 5	1.381
“ 12.....	71 2	2.164	58 2	1.769	46 9	1.422
“ 19.....	71 3	2.167	58 1	1.767	47 9	1.452
“ 26.....	71 1	2.162	58 7	1.782	48 2	1.465
Average.....	71 2	2.164	58 3	1.772	47 0	1.429
February 2.....	71 2	2.164	58 10	1.789	50 2	1.526
“ 9.....	72 0	2.190	59 0	1.794	50 6	1.536
“ 16.....	72 3	2.197	58 11	1.792	52 0	1.582
“ 23.....	72 2	2.195	58 9	1.787	52 8	1.602
Average.....	71 11	2.187	58 11	1.792	51 4	1.562

SCHEME OF CROP-REPORTING FOR 1918.

(Subject to revision.)

January.—Farm values, including values of farm land, wages of farm help and values of farm live stock.

March.—Farm products on hand and percentage of merchantable quality. Condition of live stock.

April.—Areas winter killed of fall wheat, hay and clover. Condition of the growing crops of fall wheat and of hay and clover. Progress of seeding operations (spring wheat, oats and barley). Dates of sowing and of appearance of wheat above ground.

May.—Preliminary estimate of areas sown to spring wheat, oats, barley, rye, peas, mixed grains, hay and clover, alfalfa and pastures. Condition of these crops and also of fall wheat. Dates of sowing and of appearance of wheat above ground.

June.—Revised estimate of areas sown to spring wheat, oats, barley, rye, peas, mixed grains, hay and clover, alfalfa and pastures. Condition of these crops and of fall wheat. Areas of late-sown cereals and hoed crops, including buckwheat, flax, corn for husking, beans, potatoes, turnips, sugar beets, mangolds, carrots, etc., and corn for fodder. Dates of sowing and of appearance above ground of wheat. Dates of heading, flowering and milk-stage of wheat.

July.—Preliminary estimate of the yield per acre of fall wheat, hay and clover and alfalfa. Condition of spring wheat, oats, barley, rye, peas, beans, buckwheat, mixed grains, flaxseed, corn for husking, potatoes, turnips, mangolds, carrots, etc., hay and clover, alfalfa, corn for fodder, sugar beets and pasture. Dates of heading, flowering, milk-stage and cutting of wheat.

August.—Estimate of the yield per acre of spring wheat, rye, oats, barley and flax. Estimate of areas sown to these cereals that from any cause will not produce a crop. Condition of spring wheat, oats, barley, rye, beans, buckwheat, mixed grains, flaxseed, corn for husking, potatoes, turnips, mangolds, carrots, etc., hay and clover, alfalfa, corn for fodder, sugar beets and pasture. Dates of heading, flowering, milk stage and cutting of wheat. Stocks of wheat, oats, and barley in hand on August 31.

September.—Estimate of the yield per acre of fall wheat, spring wheat, oats, barley, rye, peas, beans, buckwheat, mixed grains, flaxseed and corn for husking. Quality of these crops when harvested. Condition of potatoes, turnips, mangolds, carrots, etc., sugar beets, corn for fodder and alfalfa. Date of cutting of wheat.

October.—Yield per acre, quality and average price of potatoes, sugar beets, turnips, corn for husking, other roots (mangolds, carrots, etc.), hay and clover, fodder corn and alfalfa. Acreage sown to fall wheat. Condition of fall wheat. Percentage of fall ploughing completed. Acreage summer fallowed in percentage of previous year.

December.—Final estimates of yields per acre based upon reports of threshing results. Average market prices and weight per measured bushel of cereals.

PUBLICATIONS
OF THE
Department of Trade and Commerce

REPORT OF THE DEPUTY MINISTER.

WEEKLY BULLETIN
(Circulated within Canada only),

Containing Reports of Trade Commissioners and General Trade Information.

SUPPLEMENTS TO WEEKLY BULLETIN:

Trade of China and Japan.

Russian Trade.

Directory of Russian Importers.

The German War and its relation to Canadian Trade.

Handbook for Export to South America.

Commercial Intelligence Service.

Toy Making in Canada.

The Timber Import Trade of Australia.

EXPORT DIRECTORY OF CANADA.

CANADA AND THE BRITISH WEST INDIES.

CANADA, THE COUNTRY OF THE TWENTIETH CENTURY.

GRAIN INSPECTION IN CANADA.

LIST OF LICENSED ELEVATORS.

RULES AND REGULATIONS OF THE BOARD OF GRAIN
COMMISSIONERS.

REPORT OF THE BOARD OF GRAIN COMMISSIONERS.

MAIL SUBSIDIES AND STEAMSHIP SUBVENTIONS.

For List of Publications of the Census and Statistics Office, see page iv of cover.

DEPARTMENT OF TRADE AND COMMERCE.

PUBLICATIONS

OF THE

Census and Statistics Office.

ANNUAL REPORT OF THE TRADE OF CANADA.

MONTHLY REPORT OF THE TRADE OF CANADA.

THE CANADA YEAR BOOK, 1916-17, with Map of Canada and Newfoundland, a Statistical Summary of the Progress of Canada and numerous illustrations pp. 1-xvi, 1-720.

Contents: I Natural Resources of the Dominion of Canada, by WATSON GRIFFIN, Department of Trade and Commerce, Ottawa, with 10 illustrations; II Physical Characteristics of Canada, including Geographical Features; Economic Geology in Canada, 1917, by WYATT MALCOLM, Department of Mines, Ottawa; III Area and Population; IV Education; V Climate and Meteorology, with Diagram; VI Production; VII Trade and Commerce; VIII Transportation and Communications; IX Labour; X Finance; XI Administration; XII Legislation and Principal Events of the Years 1916 and 1917; XIII Extracts from the Canada Gazette 1916 and 1917.

THE CANADA YEAR BOOK. Second Series 1905-1915. [1910 and 1913, out of print.]

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. Nos. I to XIX.

REPORT OF THE FIFTH CENSUS OF CANADA, 1911.

Vol. I, 1912. Areas and Population by Provinces, Districts and Subdistricts with Introduction. Tables I to XV, pp. i-viii, 1-623. [Out of print.]

Vol. II, 1913. Religions, Origins, Birthplace, Citizenship, Literacy and Infirmities by Provinces, Districts and Subdistricts, with Introduction. Tables I-XLVI, pp. i-iv, 1-634.

Vol. III, 1913. Manufactures for 1910 as enumerated in June 1911, with Introduction. Tables I-XX, pp. i-xvi, 1-432.

Vol. IV, 1914. Agriculture with Introduction. Tables 1-90; I-XXXV, pp. i-xcv, 1-428. Diagrams, 5 pp. [Out of print.]

Vol. V, 1915. Forest, Fishery, Fur and Mineral Production, with Introduction. Tables 1-51; I-XXVI, pp. i-l, 1-171.

Vol. VI, 1916. Occupations of the People, with Introduction. Tables 1-25; I-VI, i-xxxi, 1-469. [Out of print.]

SPECIAL REPORT ON THE FOREIGN-BORN POPULATION. Abstracted from the Records of the Fifth Census of Canada. June 1911. 23 tables. 62 pp. 1915.

REPORT OF THE POSTAL CENSUS OF MANUFACTURES, 1916. pp. i-xi; 1-263, 1917.

REPORT ON THE PRODUCTION OF CREAMERIES AND CHEESE FACTORIES, 1915 and 1916. pp. 1-24, 1917.

CRIMINAL STATISTICS. Annual Report for Year ended September 30, 1915. pp. i-xliv, 1-398.

CENSUS AND STATISTICS MONTHLY, Vols. 1-9, 1908-1916; Vol. 10, Nos. 101-103, 1917. MONTHLY BULLETIN OF AGRICULTURAL STATISTICS, Vols. 10 and 11, Nos. 104-114, 1917-18.

For List of other Publications of the Department of Trade and Commerce, see page iii of cover.

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DOMINION OF CANADA

DEPARTMENT OF TRADE AND COMMERCE

CENSUS AND STATISTICS OFFICE

Quarterly

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OF

AGRICULTURAL STATISTICS

April, 1918.

Published by Authority of the Right Hon. Sir George E. Foster,
K.C.M.G., M.P., Minister of Trade and Commerce.



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1918

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MONTHLY BULLETIN OF AGRICULTURAL STATISTICS

Vol. 11

OTTAWA, APRIL, 1918.

No. 116

DOMINION STATISTICIAN AND CONTROLLER OF CENSUS: R. H. COATS, B.A., F.S.S.
EDITOR: ERNEST H. GODFREY, F.S.S. CENSUS AND STATISTICS OFFICE,
DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

STOCKS ON HAND AND QUALITY OF CROPS OF 1917.

Report for the month ended March 30, 1918.

The following report gives the results of inquiries as to (a) the stocks of agricultural produce remaining in farmers' hands on March 30, 1918, and (b) the proportion of the crops of 1917 that proved to be of merchantable quality.

STOCKS IN FARMERS' HANDS ON MARCH 30, 1918.

According to the reports of Crop Correspondents, out of the total wheat production of 1917, 14 p.c., or nearly 32 million bushels, remained in farmers' hands on March 30, 1918. This proportion is lower than last year (21 p.c.) and than in 1916 (23 p.c.) and compares with 13 p.c. in 1915. Of the remaining field crops, the proportions and quantities estimated to be in farmers' hands on March 30 are as follows: Oats 31 p.c., or 123,910,400 bushels; barley 20 p.c., or 10,944,600 bushels; rye 13 p.c., or 491,800 bushels; buckwheat 18 p.c., or 1,251,500 bushels; corn for husking 12 p.c., or 937,000 bushels; flaxseed 9 p.c., or 515,800 bushels; potatoes 30 p.c., or 24,130,500 bushels; turnips, etc. 14 p.c., or 8,644,100 bushels; hay and clover 26 p.c., or 3,536,300 tons. The stock of potatoes, viz. 24,130,500 bushels, compares with 15,969,000 bushels last year, with 12,960,800 bushels in 1916 and with 32,310,000 bushels in 1915.

MERCHANTABLE QUALITY OF 1917 CROPS.

The returns received from Crop Correspondents show that, of the total wheat crop of 1917, 223,007,000 bushels were of merchantable quality, the proportion being 95 p.c. as compared with only 85 p.c. last year. The proportions per cent of other crops estimated to be of merchantable quality last year are as follows: Oats 91 p.c. (366,610,300 bushels out of 403,009,800 bushels); barley 90 p.c. (49,582,100 bushels out of 55,057,750 bushels); rye 89 p.c. (3,447,500 bushels out of 3,857,200 bushels); buckwheat 76 p.c. (5,426,100 bushels out of 7,149,400 bushels); corn for husking 50 p.c. (3,914,800 bushels out of 7,762,700 bushels); flaxseed 89 p.c. (5,272,800 bushels out of 5,934,900 bushels); potatoes 77 p.c. (61,767,200 bushels out of 79,892,000 bushels); turnips, etc. 83 p.c. (52,710,500 bushels out of 63,451,000 bushels); hay and clover 87 p.c. (11,923,600 tons out of 13,684,700 tons). For corn the proportion is the lowest on record, and compares with last year's estimate of 58 p.c.

Census and Statistics Office,
Ottawa, April 17, 1918.

ERNEST H. GODFREY,
Editor.

I. Produce in Farmers' Hands on March 30, 1918, and Quantities of Merchantable Quality, 1917.

Field Crops.	Total production in 1917.	In farmers' hands March 30, 1918.		Yield of 1917 harvest merchantable.	
		p.c.		p.c.	
	bush.		bush.		bush.
Canada—					
Wheat.....	233,742,850	14	31,684,700	95	223,007,000
Oats.....	403,009,800	31	123,910,400	91	366,610,300
Barley.....	55,057,750	20	10,944,600	90	49,582,100
Rye.....	3,857,200	13	491,800	89	3,447,500
Buckwheat.....	7,149,400	18	1,251,500	76	5,426,100
Corn for husking.....	7,762,700	12	937,000	50	3,914,800
Flaxseed.....	5,934,900	9	515,800	89	5,272,800
Potatoes.....	79,892,000	30	24,130,500	77	61,767,200
Turnips, etc.....	63,451,000	14	8,644,100	83	52,710,500
	tons.		tons.		tons.
Hay and clover.....	13,684,700	26	3,536,300	87	11,923,600
Prince Edward Island—	bush.		bush.		bush.
Wheat.....	522,000	28	146,200	71	370,600
Oats.....	6,482,300	37	2,398,500	87	5,639,600
Barley.....	99,750	27	26,900	92	91,800
Buckwheat.....	72,500	24	17,400	86	62,400
Potatoes.....	6,125,000	40	2,450,000	79	4,838,800
Turnips, etc.....	4,094,000	14	573,200	78	3,193,300
	tons.		tons.		tons.
Hay and clover.....	305,400	25	76,400	92	281,000
Nova Scotia—	bush.		bush.		bush.
Wheat.....	255,150	17	43,400	78	199,000
Oats.....	3,597,800	22	791,500	96	3,453,900
Barley.....	118,800	16	19,000	80	95,000
Rye.....	4,500	18	800	92	4,100
Buckwheat.....	228,900	13	29,800	79	180,800
Potatoes.....	7,173,000	33	2,367,000	77	5,523,200
Turnips, etc.....	3,193,000	15	479,000	83	2,650,200
	tons.		tons.		tons.
Hay and clover.....	894,300	19	169,900	88	787,000
New Brunswick—	bush.		bush.		bush.
Wheat.....	192,000	22	42,400	82	157,400
Oats.....	4,275,000	27	1,154,300	79	4,377,300
Barley.....	39,600	20	7,900	87	34,500
Buckwheat.....	1,111,500	20	222,300	78	867,000
Potatoes.....	6,891,000	34	2,342,900	78	5,375,000
Turnips, etc.....	2,314,000	16	370,200	87	2,013,200
	tons.		tons.		tons.
Hay and clover.....	909,000	21	190,900	88	799,900
Quebec—	bush.		bush.		bush.
Wheat.....	3,883,600	16	621,400	80	3,106,900
Oats.....	32,466,200	23	7,467,200	80	25,973,000
Barley.....	3,063,600	14	428,900	82	2,512,200
Rye.....	376,000	9	33,800	72	270,700
Buckwheat.....	2,699,000	15	404,900	71	1,916,300
Corn for husking.....	1,802,700	9	162,200	75	1,352,000
Flaxseed.....	47,000	9	4,200	83	39,000
Potatoes.....	18,158,000	23	4,176,300	68	12,347,400
Turnips, etc.....	15,759,000	9	1,418,300	84	13,237,600
	tons.		tons.		tons.
Hay and clover.....	5,065,000	29	1,468,900	83	4,204,000

I. Produce in Farmers' Hands on March 30, 1918, and Quantities of Merchantable Quality, 1917—concluded.

Field Crops.	Total production in 1917.	In farmers' hands March 31, 1918.		Yield of 1917 harvest merchantable.	
	bush.	p.c.	bush.	p.c.	bush.
Ontario—					
Wheat.....	16,318,300	17	2,774,100	88	14,360,100
Oats.....	98,075,500	32	31,384,200	90	88,268,000
Barley.....	11,191,000	22	2,462,000	90	10,071,900
Rye.....	1,207,000	13	156,900	90	1,086,300
Buckwheat.....	3,037,500	19	577,100	79	2,399,600
Corn for husking.....	5,960,000	13	774,800	43	2,562,800
Flaxseed.....	52,000	11	5,700	75	39,000
Potatoes.....	18,981,000	32	6,073,900	79	14,995,000
Turnips, etc.....	32,047,000	15	4,807,000	83	26,599,000
	tons.		tons.		tons.
Hay and clover.....	5,097,000	27	1,376,200	89	4,536,300
Manitoba—					
	bush.		bush.		bush.
Wheat.....	41,039,700	14	5,745,600	95	38,987,700
Oats.....	45,375,000	30	13,612,500	92	41,745,000
Barley.....	15,930,000	18	2,867,400	90	14,337,000
Rye.....	638,300	12	76,600	90	574,500
Flaxseed.....	146,700	8	11,700	87	127,600
Potatoes.....	3,643,000	28	1,020,000	77	2,805,100
Turnips, etc.....	463,000	10	46,300	95	439,900
	tons.		tons.		tons.
Hay and clover.....	75,000	25	18,800	93	69,800
Saskatchewan—					
	bush.		bush.		bush.
Wheat.....	117,921,300	13	15,329,800	97	114,383,700
Oats.....	123,213,600	35	43,124,800	92	113,356,500
Barley.....	14,067,900	23	3,235,600	92	12,942,500
Rye.....	998,400	12	109,800	95	948,500
Flaxseed.....	4,710,600	8	376,800	93	4,380,300
Potatoes.....	9,010,000	30	2,703,000	85	7,658,500
Turnips, etc.....	1,727,000	16	276,300	86	1,485,200
	tons.		tons.		tons.
Hay and clover.....	369,600	23	85,000	97	358,500
Alberta—					
	bush.		bush.		bush.
Wheat.....	52,992,100	13	6,889,000	96	50,872,400
Oats.....	86,288,600	27	23,297,900	94	81,111,300
Barley.....	10,386,200	18	1,869,500	90	9,347,600
Rye.....	633,000	18	113,900	89	563,400
Flaxseed.....	978,600	12	117,400	86	686,900
Potatoes.....	7,409,000	31	2,296,800	85	6,297,700
Turnips, etc.....	2,272,000	22	499,800	79	1,794,900
	tons.		tons.		tons.
Hay and clover.....	730,400	15	109,600	92	672,000
British Columbia—					
	bush.		bush.		bush.
Wheat.....	618,700	15	92,800	92	569,200
Oats.....	3,235,800	21	679,500	83	2,685,700
Barley.....	160,900	17	27,400	93	149,600
Potatoes.....	2,502,000	28	700,600	77	1,926,500
Turnips, etc.....	1,582,000	11	174,000	82	1,297,200
	tons.		tons.		tons.
Hay and clover.....	239,000	17	40,600	90	215,100

II. Produce in Farmers' Hands on March 31, 1915-1918.

Field Crops.	Per cent of total yield on hand.				In farmers' hands on March 31.			
	1915	1916	1917	1918	1915	1916	1917	1918
	p.c.	p.c.	p.c.	p.c.	bush.	bush.	bush.	bush.
Canada—								
Wheat.....	13	23	21	14	20,247,000	92,548,000	54,938,000	31,684,700
Oats.....	27	45	39	31	85,843,000	208,129,000	162,089,000	123,910,400
Barley.....	21	35	26	20	7,430,400	18,995,500	10,997,000	10,944,600
Rye.....	17	31	28	13	343,700	749,700	820,500	491,800
Buckwheat.....	21	22	18	18	1,792,500	1,747,000	1,103,000	1,251,500
Corn for husking.....	21	24	13	12	2,928,000	3,453,000	814,000	937,000
Flaxseed.....	10	25	20	9	740,700	1,552,000	1,636,000	515,800
Potatoes.....	38	21	26	30	32,310,000	16,825,000	16,770,000	24,130,500
Turnips, etc.....	15	15	14	14	10,267,000 tons.	8,995,900 tons.	4,932,000 tons.	8,644,100 tons.
Hay and clover.....	21	23	32	26	2,173,000	2,431,200	4,719,000	3,536,300
P. E. Island—					bush.	bush.	bush.	bush.
Wheat.....	38	37	28	28	308,000	242,000	162,000	146,200
Oats.....	42	40	38	37	3,201,000	2,737,000	2,817,000	2,398,500
Barley.....	27	21	25	27	32,000	22,000	26,000	26,900
Buckwheat.....	23	25	21	24	19,500	19,000	14,000	17,400
Potatoes.....	43	24	29	40	2,903,000	857,000	1,852,000	2,450,000
Turnips, etc.....	14	14	15	14	509,000 tons.	507,000 tons.	572,000 tons.	573,200 tons.
Hay and clover.....	31	30	27	25	105,000	104,000	91,000	76,400
Nova Scotia—					bush.	bush.	bush.	bush.
Wheat.....	19	26	19	17	50,000	63,000	50,000	43,400
Oats.....	25	31	23	22	880,000	1,068,000	927,000	791,500
Barley.....	18	23	17	16	24,400	30,000	21,000	19,000
Rye.....	13	16	10	18	700	700	500	800
Buckwheat.....	15	18	14	13	38,000	40,000	34,000	29,800
Potatoes.....	34	26	24	33	2,401,000	1,230,000	1,664,000	2,367,000
Turnips, etc.....	16	17	13	15	566,000 tons.	607,000 tons.	473,000 tons.	479,000 tons.
Hay and clover.....	21	26	26	19	206,000	254,000	259,000	169,900
New Brunswick—					bush.	bush.	bush.	bush.
Wheat.....	18	24	21	22	41,000	65,000	51,000	42,400
Oats.....	29	32	30	27	1,865,000	1,772,000	1,812,000	1,154,300
Barley.....	19	22	19	20	12,000	10,000	9,000	7,900
Buckwheat.....	20	22	21	20	332,000	284,000	253,000	222,300
Potatoes.....	44	26	24	34	4,609,000	1,479,000	1,797,000	2,342,900
Turnips, etc.....	13	14	15	16	324,000 tons.	357,000 tons.	475,000 tons.	370,200 tons.
Hay and clover.....	19	19	29	21	148,000	152,000	247,000	190,900
Quebec—					bush.	bush.	bush.	bush.
Wheat.....	23	24	18	16	228,000	337,000	173,000	621,400
Oats.....	32	33	27	23	13,630,000	13,726,000	6,591,000	7,467,200
Barley.....	23	22	19	14	526,000	493,000	277,000	428,900
Rye.....	24	20	20	9	37,000	29,000	24,000	33,800
Buckwheat.....	22	21	18	15	535,000	537,000	345,000	404,900
Corn for husking.....	16	17	12	9	81,000	86,000	39,000	162,200
Flaxseed.....	20	18	18	9	1,700	1,300	1,000	4,200
Potatoes.....	39	27	23	23	8,574,000	4,728,000	3,375,000	4,176,300
Turnips, etc.....	14	15	12	9	497,000 tons.	457,000 tons.	318,000 tons.	1,418,300 tons.
Hay and clover.....	23	22	39	29	808,000	812,000	2,037,000	1,468,900

II. Produce in Farmers' Hands on March 31, 1915-1918—concluded.

Field Crops.	Per cent of total yield on hand.				In farmers' hands on March 31.			
	1915	1916	1917	1918	1915	1916	1917	1918
	p.c.	p.c.	p.c.	p.c.	bush.	bush.	bush.	bush.
Ontario—								
Wheat.....	17	27	17	17	2,997,000	8,120,000	3,048,000	2,774,100
Oats.....	29	39	28	32	28,846,000	47,736,000	14,216,000	31,384,200
Barley.....	23	29	19	22	3,193,000	4,494,000	1,425,000	2,462,000
Rye.....	13	23	16	13	178,000	355,000	193,000	156,900
Buckwheat.....	21	24	18	19	868,000	867,000	457,000	577,100
Corn for husking.....	21	24	13	13	2,847,000	3,367,000	775,000	774,800
Flaxseed.....	15	20	8	11	13,000	12,000	34,000	5,700
Potatoes.....	42	24	19	32	10,775,000	3,483,000	1,541,000	6,073,900
Turnips, etc.....	15	14	13	15	7,442,000	6,321,000	2,661,000	4,807,000
					tons.	tons.	tons.	tons.
Hay and clover.....	20	23	31	27	725,000	939,000	1,897,000	1,376,200
Manitoba—					bush.	bush.	bush.	bush.
Wheat.....	13	21	16	14	4,833,000	14,561,000	4,747,000	5,745,600
Oats.....	29	46	39	30	9,148,000	23,345,000	13,891,000	13,612,500
Barley.....	20	33	22	18	1,922,000	5,497,000	3,020,000	2,867,400
Rye.....	9	44	39	12	90,000	92,000	217,000	76,600
Flaxseed.....	6	23	15	8	22,000	28,000	31,000	11,700
Potatoes.....	24	31	35	28	774,000	795,000	1,648,000	1,020,000
Turnips, etc.....	11	16	8	10	113,000	106,000	36,000	46,300
					tons.	tons.	tons.	tons.
Hay and clover.....	23	28	33	25	47,000	25,000	47,000	18,800
Saskatchewan—					bush.	bush.	bush.	bush.
Wheat.....	11	21	21	13	7,923,000	47,106,000	30,987,000	15,329,800
Oats.....	24	48	45	35	15,126,000	69,632,000	73,475,000	43,124,800
Barley.....	15	40	33	23	743,000	3,809,000	3,272,000	3,235,600
Rye.....	7	33	48	12	4,000	67,000	263,000	109,800
Flaxseed.....	10	23	18	8	638,000	1,208,700	1,205,000	376,800
Potatoes.....	19	32	37	30	759,000	1,231,000	2,708,000	2,703,000
Turnips, etc.....	14	21	24	16	439,000	60,900	98,000	276,300
					tons.	tons.	tons.	tons.
Hay and clover.....	21	29	28	23	26,000	10,200	16,500	85,000
Alberta—					bush.	bush.	bush.	bush.
Wheat.....	13	33	24	13	3,838,000	21,958,000	15,621,000	6,889,000
Oats.....	22	56	42	27	12,802,000	46,971,000	42,924,000	23,297,900
Barley.....	20	47	30	18	970,000	4,616,000	2,932,000	1,869,500
Rye.....	9	55	28	18	34,000	206,000	123,000	113,900
Flaxseed.....	11	45	28	12	66,000	302,000	365,000	117,400
Potatoes.....	28	42	36	31	1,005,000	1,690,000	1,722,000	2,296,800
Turnips, etc.....	15	35	24	22	182,000	139,000	114,000	499,800
					tons.	tons.	tons.	tons.
Hay and clover.....	15	24	22	15	46,000	59,000	73,500	109,600
British Columbia—					bush.	bush.	bush.	bush.
Wheat.....	8	18	20	15	29,000	96,000	99,000	92,800
Oats.....	11	26	12	21	345,000	1,142,000	436,000	679,500
Barley.....	8	23	12	17	8,000	24,500	15,000	27,400
Potatoes.....	19	34	16	28	510,000	1,332,000	463,000	700,600
Turnips, etc.....	13	25	10	11	195,000	441,000	185,000	174,000
					tons.	tons.	tons.	tons.
Hay and clover.....	18	19	11	17	62,000	76,000	51,000	40,600

III. Produce of Merchantable Quality, 1914-1917.

Field Crops.	Per cent of total yield merchantable.				Yield of harvest merchantable.			
	1914	1915	1916	1917	1914	1915	1916	1917
	p.c.	p.c.	p.c.	p.c.	bush.	bush.	bush.	bush.
Canada—								
Wheat.....	94	95	85	95	150,973,000	374,670,000	223,643,000	223,007,000
Oats.....	91	92	89	91	285,991,000	428,857,000	367,271,000	366,610,300
Barley.....	88	88	84	90	32,022,000	47,789,000	35,666,700	49,582,100
Rye.....	90	88	92	89	1,815,800	2,218,500	2,646,000	3,447,500
Buckwheat.....	84	83	78	76	7,279,000	6,512,000	4,606,000	5,426,100
Corn for husking...	80	78	58	50	11,100,000	11,142,000	3,648,000	3,914,800
Flaxseed.....	89	95	93	89	6,370,000	5,859,000	7,642,600	5,272,800
Potatoes.....	87	73	78	77	74,165,000	43,858,000	49,691,500	61,767,200
Turnips, etc.....	87	86	75	83	60,218,000	51,713,200	27,461,000	52,710,500
					tons	tons	tons	tons
Hay and clover....	89	86	90	87	9,094,000	9,093,600	13,167,000	11,923,600
P. E. Island—					bush.	bush.	bush.	bush.
Wheat.....	94	90	86	71	758,000	589,000	497,000	370,600
Oats.....	96	93	94	87	7,262,000	6,382,000	6,968,000	5,639,600
Barley.....	95	92	93	92	113,000	99,000	98,000	91,800
Buckwheat.....	88	81	87	86	75,000	61,000	59,000	62,400
Potatoes.....	84	63	81	79	5,689,000	2,239,000	5,173,000	4,838,800
Turnips, etc.....	84	80	84	78	2,980,000	2,841,000	3,205,000	3,193,300
					tons	tons	tons	tons
Hay and clover....	95	92	93	92	319,000	322,000	314,000	281,000
Nova Scotia—					bush.	bush.	bush.	bush.
Wheat.....	90	86	87	78	235,000	212,000	227,000	119,000
Oats.....	93	89	89	96	3,227,000	3,088,000	3,588,000	3,453,900
Barley.....	92	86	88	80	127,000	110,000	108,000	95,000
Rye.....	96	78	94	92	4,800	3,500	5,000	4,100
Buckwheat.....	84	82	83	79	218,000	182,000	203,000	180,800
Potatoes.....	81	65	82	77	5,778,000	3,116,000	5,687,000	5,523,200
Turnips, etc.....	86	81	79	83	3,013,000	2,907,000	2,872,000	2,650,200
					tons	tons	tons	tons
Hay and clover....	90	89	90	88	881,000	854,000	896,000	787,000
New Brunswick—					bush.	bush.	bush.	bush.
Wheat.....	92	94	86	82	215,000	251,000	208,000	157,400
Oats.....	95	92	89	79	6,155,000	5,093,000	5,375,000	4,377,300
Barley.....	95	91	85	87	61,000	44,000	38,000	34,500
Buckwheat.....	84	86	83	78	1,141,000	1,130,000	1,001,000	867,000
Potatoes.....	86	82	81	78	9,048,000	4,721,000	6,065,000	5,375,000
Turnips, etc.....	83	85	86	87	2,034,000	2,226,000	2,722,000	2,013,200
					tons	tons	tons	tons
Hay and clover....	89	91	85	88	695,000	720,000	723,000	799,900
Quebec—					bush.	bush.	bush.	bush.
Wheat.....	92	92	83	80	914,000	1,292,000	797,000	3,106,900
Oats.....	92	92	81	80	38,880,000	39,035,000	19,773,000	25,973,000
Barley.....	93	92	85	82	2,101,000	2,069,000	1,238,000	2,512,200
Rye.....	81	83	80	72	126,000	120,000	94,000	270,700
Buckwheat.....	84	84	79	71	2,070,000	2,157,000	1,516,000	1,916,300
Corn for husking...	83	83	78	75	427,000	421,000	251,000	1,352,000
Flaxseed.....	88	88	79	83	7,200	6,000	4,000	39,000
Potatoes.....	85	80	73	68	18,474,000	14,041,000	10,711,000	12,347,400
Turnips, etc.....	85	87	85	84	2,914,000	2,737,000	2,253,000	13,237,600
					tons	tons	tons	tons
Hay and clover....	88	88	89	83	3,161,000	3,240,000	4,649,000	4,204,000

III. Produce of Merchantable Quality, 1914-1917—concluded.

Field Crops.	Per cent of total yield merchantable.				Yield of harvest merchantable.			
	1914	1915	1916	1917	1914	1915	1916	1917
	p.c.	p.c.	p.c.	p.c.	bush.	bush.	bush.	bush.
Ontario—								
Wheat.....	88	82	78	88	15,511,000	24,916,000	13,986,000	14,360,100
Oats.....	88	86	75	90	87,850,000	105,138,000	38,078,000	88,268,000
Barley.....	89	87	79	90	12,441,000	13,334,000	5,923,000	10,071,900
Rye.....	91	87	88	90	1,220,000	1,356,000	1,063,000	1,086,300
Buckwheat.....	85	81	72	79	3,505,000	2,982,000	1,827,000	2,399,600
Corn for husking...	80	77	57	43	10,673,000	10,721,000	3,397,000	2,562,800
Flaxseed.....	85	79	64	75	72,000	49,000	27,000	39,000
Potatoes.....	93	58	66	79	23,968,000	8,267,000	5,355,000	14,995,000
Turnips, etc.....	89	87	67	83	43,615,000	38,401,000	13,713,000	26,599,000
Hay and clover...	87	81	92	89	3,147,000	3,289,000	5,629,000	4,536,300
Manitoba—								
Wheat.....	95	95	85	95	36,733,000	65,870,000	25,217,000	38,987,700
Oats.....	91	93	90	92	28,983,000	47,198,000	43,595,000	41,745,000
Barley.....	85	82	83	90	8,393,000	13,660,000	11,395,000	14,337,000
Rye.....	80	99	99	90	80,000	206,000	551,000	574,500
Flaxseed.....	88	81	96	87	296,000	97,000	200,000	127,600
Potatoes.....	85	75	87	77	2,695,000	1,924,000	4,097,000	2,805,100
Turnips, etc.....	83	90	86	95	870,000	599,000	389,000	439,900
Hay and clover...	93	90	93	93	187,000	81,000	132,000	69,800
Saskatchewan—								
Wheat.....	94	98	90	97	69,364,000	219,826,000	132,803,000	114,383,700
Oats.....	92	97	94	92	56,679,000	140,714,000	153,481,000	113,356,500
Barley.....	86	96	92	92	4,205,000	9,142,000	9,122,700	12,942,500
Rye.....	88	98	98	95	47,000	199,000	537,000	948,500
Flaxseed.....	89	97	93	93	5,441,000	5,097,000	6,223,600	4,380,300
Potatoes.....	75	83	87	85	3,065,000	3,193,000	6,367,500	7,658,500
Turnips, etc.....	75	88	83	86	2,408,000	255,200	340,000	1,485,200
Hay and clover...	85	96	94	97	104,000	33,600	555,000	358,500
Alberta—								
Wheat.....	93	92	76	96	26,718,000	61,215,000	49,467,000	50,872,400
Oats.....	95	93	91	94	53,948,000	78,005,000	93,001,000	81,111,300
Barley.....	93	94	78	90	4,490,000	9,233,000	7,624,000	9,347,600
Rye.....	94	89	90	89	338,000	334,000	396,000	563,400
Flaxseed.....	90	91	81	86	554,000	610,000	1,188,000	686,900
Potatoes.....	90	81	82	85	3,271,000	3,259,000	3,922,000	6,297,700
Turnips, etc.....	88	82	83	79	1,096,000	326,000	394,000	1,794,900
Hay and clover...	89	81	88	92	272,000	199,000	294,000	672,000
British Columbia—								
Wheat.....	93	95	89	92	345,000	499,000	441,000	569,000
Oats.....	95	96	94	83	3,007,000	4,204,000	3,412,000	2,685,700
Barley.....	94	92	97	93	91,000	98,000	120,000	149,600
Potatoes.....	81	78	80	77	2,177,000	3,098,000	2,314,000	1,926,500
Turnips, etc.....	85	82	85	82	1,288,000	1,421,000	1,573,000	1,297,200
Hay and clover...	93	91	91	90	328,000	355,000	425,000	215,100

STOCKS OF GRAIN IN CANADA ON MARCH 30, 1918.

In co-operation with the Grain Inspection Division of the Department of Trade and Commerce, the Census and Statistics Office has completed its annual inquiry for the purpose of ascertaining as nearly as possible the total quantities of grain (wheat, oats, barley and flaxseed) in Canada at the end of March. The inquiry was conducted by means of schedules issued by the Census and Statistics Office to the managers of elevator, flour mill and railway companies requesting the actual quantities of wheat, wheat flour, oats, oatmeal, rolled oats, barley, barley meal, flax and linseed meal on hand or in transit on the morning of Saturday, March 30, 1918. The quantities of grain in the terminal elevators at Fort William and Port Arthur and in the interior terminal elevators of the Dominion Government at Calgary, Moosejaw, Saskatoon and Vancouver and of the Canadian Government Railways at South Transcona, were furnished by the Board of Grain Commissioners for Canada. The grain in the eastern public elevators was ascertained, partly from schedules returned direct and partly from the returns published by the Grain Inspection Division of the Department of Trade and Commerce in the Weekly Bulletin of April 8, 1918. For the quantity of grain estimated to be in farmers' hands on March 30, use was made of the replies to the annual schedule addressed to the Crop Correspondents of the Census and Statistics Office, as compiled in Table I on page 90 of this issue.

In the following statement (Table I) the results are given of the compilation of the returns received for wheat, and wheat flour expressed as wheat, as compared with the results of the similar inquiries of March 31, 1916 and 1917:—

I. Stocks of Wheat in Canada on March 31, 1916 and 1917 and March 30, 1918.

Wheat in—	March 31, 1916.	March 31, 1917.	March 30, 1918.
	bush.	bush.	bush.
Terminal elevators.....	26,063,316	24,441,799	4,149,357
Winter storage in vessels.....	2,447,386	89,245	2,882,141
Interior terminal elevators.....	5,716,498	5,168,242	1,098,610
Country elevators.....	43,996,131	30,549,209	10,459,466
Public elevators.....	3,326,417	2,516,461	1,935,639
Flour mills.....	5,277,196	4,884,825	4,802,236
Transit by rail.....	23,369,809	12,862,356	20,011,179
Farmers' hands.....	86,854,000	45,638,000	31,684,700
Totals.....	197,050,753	126,150,137	77,023,328

Adopting the simpler classification of elevators, flour mills, in transit by rail and in farmers' hands, the results of the inquiry for each of the four years 1915, 1916, 1917 and 1918 in respect of wheat are as shown in Table II.

II. Stocks of Wheat in Canada on February 8, 1915, on March 31, 1916 and 1917 and on March 30, 1918.

Description.	February 8, 1915.	March 31, 1916.	March 31, 1917.	March 30, 1918.
	bush.	bush.	bush.	bush.
Elevators.....	30,843,877	81,549,748	62,764,956	20,525,213
Flour mills.....	6,160,840	5,277,196	4,884,825	4,802,236
In transit by rail.....	12,571,876	23,369,809	12,862,356	20,011,179
In farmers' hands.....	29,554,000	86,854,000	45,638,000	31,684,700
Totals.....	79,130,593	197,050,753	126,150,137	77,023,328

For oats, barley and flax, including quantities of oatmeal, rolled oats, barley meal and linseed meal, expressed as grain, the quantities returned as in Canada on March 31, 1917, and March 30, 1918, were as in Table III.

III. Stocks of Oats, Barley and Flax in Canada on March 31, 1917, and March 30, 1918.

Grain in—	Oats.		Barley.		Flax.	
	March 31, 1917.	March 30, 1918.	March 31, 1917.	March 30, 1918.	March 31, 1917.	March 30, 1918.
	bush.	bush.	bush.	bush.	bush.	bush.
Terminal elevators...	10,547,207	7,044,494	1,300,216	2,408,343	1,607,205	870,198
Winter storage in vessels.....	101,331	—	—	—	—	—
Interior terminal elevators.....	2,694,684	4,228,468	167,048	163,035	237,426	40,514
Country elevators.....	17,357,846	9,986,840	1,682,570	1,178,349	2,024,195	535,061
Public elevators.....	5,335,350	2,035,291	197,062	310,268	—	3,586
Flour mills.....	1,104,931	1,174,944	85,928	131,436	62,444	10,121
Transit by rail.....	10,279,581	7,202,056	879,460	906,328	318,004	445,048
Farmers' hands.....	136,679,000	123,910,400	10,559,000	10,944,600	1,413,000	515,800
Totals.....	184,099,930	155,582,493	14,871,284	16,042,359	5,662,274	2,420,328
RECAPITULATION.						
Elevators, etc.....	36,036,418	23,295,093	3,346,896	4,059,995	3,868,826	1,449,359
Flour mills.....	1,104,931	1,174,944	85,928	131,436	62,444	10,121
In transit by rail.....	10,279,581	7,202,056	879,460	906,328	318,004	445,048
In farmers' hands.....	136,679,000	123,910,400	10,559,000	10,944,600	1,413,000	515,800
Totals.....	184,099,930	155,582,493	14,871,284	16,042,359	5,662,274	2,420,328

The total number of elevators licensed in Canada for the year 1917-18 is 3,694, and the replies received this year represent a total of 3,246 elevators. In 1917 the replies received represented 2,950 out of 3,360 elevators licensed, and in 1916, 2,700 out of 3,059; for each

year therefore the percentage of replies to the total number of licensed elevators is 88. In the case of flour mills, for 1918, 410 replies were received from 683 that were circularized, a percentage of 60; in 1917 the figures were 300 out of 550, or 54 per cent, and in 1916 250 out of 500 or 50 per cent. In the case of both elevators and flour mills, practically all the large concerns are represented in the replies obtained, and the quantities in the elevators and flour mills that failed to reply would not relatively be considerable.

The compilation of the returns actually received from elevators, flour mills, railway companies and Crop Correspondents, shows that on March 30, 1918, the quantity in Canada of wheat and wheat flour expressed as wheat was in round figures 77 million bushels, as compared with 126 million bushels last year, 197 million bushels in 1916 and 79 million bushels on February 8, 1915. The total for 1918 includes 25 million bushels in elevators, flour mills and in winter storage in vessels, 32 million bushels in farmers' hands and 20 million bushels in transit by rail. Of oats, including oat products expressed as oats, the total quantity in Canada on March 30, 1918, was about 155½ million bushels, comprising 24½ million bushels in elevators and flour mills, 124 million bushels in farmers' hands and 7 million bushels in transit by rail. Of barley the total quantity in Canada on March 30, 1918, was about 16 million bushels, of which 4 million bushels were in elevators, etc., 11 million bushels in farmers' hands and nearly 1 million bushels in transit by rail. Of flaxseed the quantity in stock on March 30, 1918, was 2,420,300 bushels, including 1,459,500 bushels in elevators and mills, 515,800 bushels in farmers' hands and 445,000 bushels in transit by rail.

The quantities of grain in transit by rail, as given above, do not include produce of the United States amounting to 60,250 bushels of wheat, 59,000 bushels of oats, 14,400 bushels of barley and 10,000 bushels of flaxseed.

Ontario Wheat Crop of 1917.—Some difficulty has been experienced in accounting for the Ontario wheat crop of 1917, the total yield of which was 16,318,600 bushels, according to the estimate of the Census and Statistics Office and 17,063,723 bushels, according to the Report of the Ontario Department of Agriculture. In Table I (p. 93), the estimated quantity in farmers' hands is 17 p.c. of the total crop, or 2,774,100 bushels, and this proportion is not larger than is usual for the time of year. It is considered probable that owing to the difficulty of securing other feeds and the high prices of coarse grains, quantities of wheat in Ontario have been fed on the farm instead of coming into the market.

EXPORTABLE SURPLUS OF WHEAT AND OATS.

In the Monthly Bulletin of September last (Vol. 10, No. 109, p. 230) it was estimated on the basis of the data then available that, after satisfying home requirements, the quantity of wheat available for export during the crop year ending August 31, 1918, would be about 154 million bushels. It is now possible to revise this estimate

in accordance with the final figures of production and the recently concluded ascertainment of the stocks of grain in Canada at the end of March, 1918 (see preceding article).

Home requirements for seed and food during the five months ending August 31 next may be placed at 48 million bushels, consisting of 28 million bushels for the seeding this spring of, say, 16 million acres and of 20 million bushels as food. Deducting the sum of these two quantities from the stocks in Canada on March 30, 1918, viz., 78 million bushels (77,023,328 bushels plus, say, one million bushels not returned or in retail hands), we get 30 million bushels as approximately the surplus of wheat available for export from April 1 to August 31, 1918. The actual exports of wheat and wheat flour expressed as wheat during the five months ended January 31, 1918, were 95,127,531 bushels, and the imports during the same period were 218,704 bushels; so that the net exports were 94,908,827 bushels. The exports and imports of wheat for February and March, 1918, are not yet available for publication; but we may estimate the total exports of wheat for the crop year ending August 31, 1918, at about 148 million bushels, as compared with 170,804,000 bushels in 1916-17, 289,794,162 bushels in 1915-16 and 84,821,922 bushels in 1914-15. The difference between the total wheat crop of 1916 and 1917 was 29,038,150 bushels in favour of 1916, and the estimated exports of 1917-18 are less than the actual exports of 1916-17 by 22,804,000 bushels.

The data with regard to oats are not so complete, as there are no means of ascertaining closely the quantities that are used in the feeding of live stock. Of the quantity estimated as being in farmers' hands on March 30, 1918, viz., 123,910,400 bushels, it may be assumed that for the seeding this spring of, say, 14 million acres, at $2\frac{1}{2}$ bushels per acre, 35 million bushels will be required, which leaves in farmers' hands for feeding or for export about 89 million bushels. The actual exports of oats and oatmeal expressed as oats, during the five months ended January 31, 1918, were 15,859,604 bushels. For the crop year ended August 31, 1917, the exports of oats, including meal, were 63,249,847 bushels, as compared with 63,508,855 bushels in 1916. Assuming that the quantity in elevators, in flour mills and in transit, viz., 31,672,093 bushels, is available for food and export, and the total crop of 1917 being only about 7 million bushels less than in 1916, it may be anticipated that the quantity available for export during the five months ending August 31, 1918, will be between 30 and 35 million bushels.

Last year, in the April issue of the Monthly Bulletin of Agricultural Statistics (pp. 84 and 85), it was estimated that the surplus of wheat, including flour, then available for export during the remaining five months of the crop year ending August 31, 1917, would be about 80 million bushels, or a total for the year of about 173 million bushels, and that the surplus of oats, including oatmeal, for export during the unexpired five months of the crop year would be between 35 and 40 million bushels. As stated above, the quantity actually exported of wheat for the year ended August 31, 1917, was 170,804,000 bushels,

and of oats, for the five months April to August 1917, the quantity actually exported was 38,495,657 bushels, making a total for the year ended August 31, 1917, of 63,249,847 bushels.

CROP REPORTS OF PROVINCIAL GOVERNMENTS.

Ontario.—The Department of Agriculture reported (April 13) that although most farmers who grow winter wheat had intended to increase their acreages last fall, the late harvest and the scarcity of help kept the areas sown to about that of the preceding year. Considerable of the crop had hardly enough top to enter the winter satisfactorily, although otherwise the young plants appeared to be vigorous. After the snow cleared off, the nights continued very cold, and the crop suffered from the alternate freezing and thawing of the unprotected fields. The present appearance of the young wheat is not encouraging, most of the fields being more or less brown and patchy, and all of them standing in need of good spring rains, as the latter part of March and the early days of April were cold and clear with practically no rain, while frequent winds helped to make the ground exceedingly dry for the season. A few good warm showers may yet help the crop to pick up, but the general opinion is that a good deal of drilling in of spring grains will be necessary; and also some ploughing up of portions of the fields; in fact some re-seeding has been done already. In those counties in eastern Ontario where fall wheat is raised it has done better relatively than in the western counties where the crop is more largely grown. Winter rye has also suffered injury by the trying spring weather, but not to so great an extent as the wheat. Clover, however, has come through better than either wheat or rye. While some heaving has been reported, and while looking sick in places, the general appearance of the fields is encouraging, considering the rather unfavourable spring for young crops wintering over. As correspondents reported, the crop was needing rain in order to receive a good start.

Horses are plentiful, and drivers and undersized general purpose animals are selling cheaply, but heavy working horses are more in demand, and are commanding good prices. Cattle are in good general condition, although not so many beef animals are being fed owing to the high price of grain and mill feeds. Many dairy cows are falling off in milk from the same cause, and owners are eager for early grass. The swine industry is at high mark. More brood sows are kept than ever before. What is known as "The Hog Campaign" has been pushed widely and vigorously for several months past, and farmers generally are raising all the young pigs they can feed, considering the discouragingly high prices of all classes of feed and the comparative failure of the corn crop. A Wellington County correspondent states: "I have raised already 200 sucking pigs, and could sell 400 more if I had them at \$7 each." There will likely be a steady increase in the number of hogs from now on, although animals ready for the bacon market are at present relatively scarce. Sheep are increasing in popularity in various sections of the province.

There has been a good lamb drop already, and the prospects for developing this long neglected class of farm animals are brightening.

A Brant correspondent describes the general farm attitude when he says: "Most farmers would like to increase their acreage for field production if they could depend upon procuring sufficient labour." However, despite the probable lack of help, an endeavour is being made by many farmers to extend the area of spring crops. A considerable number are about to try spring wheat for the first time, or increase their former acreage. More barley will also be sown. With the unusually dry weather so far prevailing, farmers have been able to get upon the land early, and already a considerable area of spring grains has been put in in the southwestern counties. Complaints are being made as to scarcity of good, well tested seed corn.

The dearth of experienced farm workers continues, and much of the help this season will have to be more or less untrained. A number of organizations, official and voluntary, are now at work to help to supply the need as fully as possible. Correspondents declare that farmers will have to exchange work more than ever and use more horses and larger implements. Wages for married men run from \$400 to \$500 a year, with free house, garden and cow pasture. By the month good men get from \$35 to \$50, with board, and in York county as high as \$60 is being paid for high-class men.

Saskatchewan.—The following telegram was received from the Saskatchewan Department of Agriculture on April 15: "Seeding became general April 15. About 25 per cent wheat sown. Estimated 10 per cent increase in wheat acreage. No shortage of seed wheat. The early spring has solved the difficulty of labour shortage."

REPORTS OF CROP CORRESPONDENTS.

Month ended March 31, 1918.

Maritime Provinces.—All farm animals are in good condition, although thin, owing to a shortage of feed. Hay is very scarce and many farmers have had to import it. Prices have ranged as high as \$25 per ton. The demand for horses is not great. Milch cows, swine and sheep are realizing high prices. Seed grain is said to be scarce, but the prospects for increased crops are good.

Quebec.—Farm animals have come through the winter in good condition, but are looking a little thin, owing to the shortage of feed. All classes of live stock are in good demand, and prices are high, particularly for swine, of which a great number could be raised at a good profit if fattening food could be procured. Farmers have very little of any of the crops left on hand, except hay, which is abundant. Grain and potatoes will have to be bought for seed. Labour is also very scarce and dear. The farmers in general are disposed to make good efforts for the cultivation of a greater area, and to raise more pigs, calves and sheep.

Our Crop Correspondent at Bromptonville writes under date of March 11 as follows: "Seven-eighths of the ploughing in this locality are usually done in the autumn, but as last fall the snow

and the cold arrived early there remains at least one-quarter of the work still to be done. The prospects for the coming season are rather good. The first snowfalls came early before the ground was frozen, and as this first layer of snow remained it protected the soil which was not, or was only slightly frozen. This layer is still thick. Unless there should be late and intense cold, the ground will be ready early for spring seeding."

"More than ordinary preparations are being made for the coming seed time. In spite of the check in the last two years, farmers wish to sow abundantly. An increase is anticipated in the seeding of potatoes, oats and wheat. One thing to be noted in connection with agricultural production is the considerable increase in general stock raising, and especially of swine. The number of swine in this district this year will certainly be more than 50 p.c. Farmers expect a good profit from this source. Another fact to be noted is the loss this winter of a considerable number of calves. One hardly knows the cause. Some farmers who wintered 20 calves have lost ten of them, and others in proportion more or less."

Ontario.—The winter has been very severe. All live stock are thinner, but in good condition. The demand for heavy horses is greater than that for light ones, and prices range from \$100 to \$300 per head. Milch cows are in good demand and prices high. There is a very good outlook for sheep, and farmers are increasing their flocks. Wool is selling for as high as 78 cents per lb. Hog production is on the increase and high prices are being realized. All feed grains are scarce and farmers are feeding what they have on hand to cattle. The prospects for an increased acreage in all crops are bright.

Manitoba.—All live stock wintered well, and are healthy and in good condition. On account of the long, severe winter and consequent shortage of feed, a few are reported thin; the cattle however got outside to forage early, which helped the situation. Wheat straw was a satisfactory substitute to conserve the grain and other feed. There is a demand for heavy work horses, and the prices are high for all live stock, especially for cattle and hogs. Not many swine were wintered on account of the high cost of grain, but the "Greater Hog Production" campaign will bring good results this year. There is plenty of grain left for seeding, except in a few cases where farmers are buying seed. Feed will also be sufficient. The ground is in good condition, and the weather has been very favourable for early seeding, which began about March 15. More wheat will be sown this season.

Saskatchewan.—Although there were few blizzards or storms the winter was severe; so that the early opening of spring has been welcomed by stock men as hay and straw were becoming scarce. At the end of March, all stock was running at large and the land was rapidly drying out; so that in some places seeding was commencing. The outlook is good therefore for increased acreages. In some districts the high prices induced farmers to sell off too much of oats, and it has become necessary to import both for seed and feed for work horses. There is a good demand for heavy horses, prices ranging from \$150 to

\$400. Good milch cows are bringing as high as \$150, prime beef 8 to 12 cents and sheep 9 to 15 cents per lb. The outlook for swine is poor, mill feed being so dear and difficult to procure. Prices are quoted from \$17.50 to \$20 per cwt. live weight.

Alberta.—March weather was unusually mild, and by the end of the month all the snow had gone and the land was drying out in good shape. The seedbed is said to be in especially good condition, owing to the large amount of snow water which has soaked in. Live stock generally are in healthy condition, though horses and cattle are a little poor in flesh owing to a limited supply of fodder. Hay was quoted as selling at as high as \$15 and straw \$2.50. The market for horses is only fair, the introduction of tractors causing depreciation in their value. Prices range from \$75 for scrubs to \$300 for good heavy stock. Prices for beef cattle range from 7 cents for poor, thin animals to 15 cents per lb. for fine fat stock. Sheep are fewer in number, and are quoted at \$13 per cwt. Swine have decreased in number, as it proves difficult to feed them at a profit even though prices are quoted at \$18 to \$20 per cwt. live weight.

British Columbia.—All stock came through the winter in good condition, for though the snow was deep, the weather was not severe. Feed for animals is scarce and dear, having to be imported into many districts. The horse market is quiet, prices ranging from \$100 for scrubs to \$360 for heavy draught horses. Cows are bringing from \$75 to \$200; beef dressed from 13 to 18 cents per lb.; sheep \$15 to \$18 per head; and pork as high as 25 cents per lb. dressed.

SPECIAL NOTICE TO CROP CORRESPONDENTS.

CHANGE IN NUMERICAL METHOD OF EXPRESSING THE CONDITION OF FIELD CROPS.

The attention of the Crop Correspondents of the Census and Statistics Office is particularly directed to a change in the method of expressing numerically the condition of field crops, which takes effect with the May report of the forthcoming crop-reporting season. Hitherto, as correspondents are aware, the system of numerical expression adopted has been one in which the number 100 represents a "standard" or "full crop," defined as "a condition of growth and vitality such as would accompany a crop starting out under favourable conditions and not afterwards subjected to unfavourable weather, insect pests, fungoid diseases, frosts and other injurious agencies". The disadvantage of this system is that the "standard" or "full crop" is a matter of opinion and dependent entirely upon the mental conception of each correspondent as to what such a standard should be. Consequently, the system has no true statistical basis. The question of the best numerical method of expressing the condition of crops has been considered exhaustively by high statistical authorities, and the method preferred is one in which the number 100 represents the actual average yield per acre over a given period, and therefore a definitely ascertained fact. The International

Agricultural Institute at Rome, following British practice, has adopted this system and has recommended it also for the adoption of countries adhering to the Institute, of which Canada is one, and the period selected for construction of the average is that of the previous ten years.

When the present crop-reporting system was started by the Census and Statistics Office in 1908, there was no definitely ascertained decennial average for each of the field crops of Canada, and therefore the Rome or British method could not be used; but for the crops reported upon by the Institute it has been the practice of the Census and Statistics Office in past years to convert the data furnished by its correspondents from the scale in which 100 represents a standard or full crop into the Institute's scale in which 100 represents an average yield for a given period. Having with the year 1917 completed ten years' annual records of areas and yields, and possessing, therefore, data to show for each crop the average annual yield for a decennial period, it is considered that the time has arrived for changing the present system into one possessing a more truly statistical basis, which would apply to all crops and obviate the necessity, when reporting to the International Agricultural Institute at Rome, of converting from one scale into the other. Accordingly, in future, when reporting upon the condition of crops at the end of each month during the growing season, correspondents are requested to express the condition in comparison with the average yield of the past ten years, which average will be represented by 100. Thus, if the average yield per acre of a crop is 20 bushels, and its appearance on June 30 indicates a yield of 21 bushels per acre, 20 being represented by 100, 21 bushels will be represented by $105 \left(\frac{21 \times 100}{20} = 105 \right)$; if the anticipated yield be 19 bushels the figure will be $95 \left(\frac{19 \times 100}{20} = 95 \right)$.

In order to provide each Correspondent with a guide to the yield per acre of his own district, the annual average yield per acre for each of the principal field crops of Canada for the past ten years is given for each province in the article which follows this. Correspondents will be able to judge from knowledge of their own localities whether the average yield in the district is more or less than that for the province, and they will be guided accordingly in reporting upon the condition of each crop. Complete instructions will be given to Crop Correspondents in the schedules as issued to them every month.

ANNUAL AVERAGE YIELDS PER ACRE OF FIELD CROPS OF CANADA FOR THE DECENNIAL PERIOD 1908-1917.

With the completion in 1917 of ten years' reports, as furnished by Crop Correspondents to the Census and Statistics Office, we are now able for the first time to present a statement of the annual average yields per acre of all field crops for the decennial period 1908-1917. These average yields have been calculated to the nearest $\frac{1}{4}$ fraction for each crop by provinces and for the Dominion as a whole, as in the following table:

Annual Average Yields per acre of Field Crops, for Canada and by Provinces, for the ten years 1908-1917.

Crops.	Ten-year average 1908-17.	Crops.	Ten-year average 1908-17.
	per acre.		per acre.
Canada—	bush.	Quebec—	bush.
Fall wheat.....	23.00	Spring wheat.....	15.75
Spring wheat.....	19.00	Oats.....	26.25
All wheat.....	19.25	Barley.....	22.75
Oats.....	35.25	Rye.....	16.00
Barley.....	27.00	Peas.....	14.75
Rye.....	18.25	Beans.....	17.50
Peas.....	16.50	Buckwheat.....	22.25
Beans.....	17.75	Mixed grains.....	25.75
Buckwheat.....	22.50	Flax.....	9.50 ¹
Mixed grains.....	32.75	Corn for husking.....	28.75
Flax.....	10.50	Potatoes.....	140.50
Corn for husking.....	53.75	Turnips, etc.....	287.25
Potatoes.....	150.25		tons.
Turnips, etc.....	361.00	Hay and clover.....	1.25
	tons.	Fodder corn.....	8.75
Hay and clover.....	1.50	Alfalfa.....	2.50 ¹
Fodder corn.....	9.25	Ontario—	bush.
Sugar beets.....	9.00	Fall wheat.....	23.00
Alfalfa.....	2.50	Spring wheat.....	18.25
Prince Edward Island—	bush.	All wheat.....	22.50
Spring wheat.....	18.50	Oats.....	34.00
Oats.....	32.25	Barley.....	29.00
Barley.....	28.25	Rye.....	17.50
Peas.....	23.00	Peas.....	16.75
Buckwheat.....	27.50	Beans.....	17.50
Mixed grains.....	40.25	Buckwheat.....	21.50
Potatoes.....	185.00	Mixed grains.....	34.50
Turnips, etc.....	475.75	Flax.....	14.50 ¹
	tons.	Corn for husking.....	56.25
Hay and clover.....	1.50	Potatoes.....	123.25
Fodder corn.....	10.25	Turnips, etc.....	371.75
Nova Scotia—	bush.		tons.
Spring wheat.....	19.25	Hay and clover.....	1.50
Oats.....	31.25	Fodder corn.....	9.50
Barley.....	26.75	Sugar beets.....	9.00
Rye.....	17.75	Alfalfa.....	2.50 ¹
Peas.....	24.25	Manitoba—	bush.
Beans.....	21.75	Fall wheat.....	21.25 ¹
Buckwheat.....	24.00	Spring wheat.....	17.75
Mixed grains.....	33.75	All wheat.....	17.75
Potatoes.....	189.00	Oats.....	35.50
Turnips, etc.....	413.25	Barley.....	25.75
	tons.	Rye.....	18.00
Hay and clover.....	1.75	Mixed grains.....	31.25 ¹
Fodder corn.....	6.00	Flax.....	11.50
Alfalfa.....	3.25 ¹	Potatoes.....	154.00
New Brunswick—	bush.	Turnips, etc.....	297.25
Spring wheat.....	17.75		tons.
Oats.....	28.25	Hay and clover.....	1.50
Barley.....	25.75	Fodder corn.....	5.50
Peas.....	17.75	Alfalfa.....	2.25 ¹
Beans.....	26.00	Saskatchewan—	bush.
Buckwheat.....	24.50	Fall wheat.....	21.00 ¹
Mixed grains.....	30.00	Spring wheat.....	18.50
Potatoes.....	192.25	All wheat.....	18.50
Turnips, etc.....	343.00	Oats.....	38.25
	tons.	Barley.....	26.75
Hay and clover.....	1.25	Rye.....	20.75
Fodder corn.....	11.25	Peas.....	21.75 ²

¹ Average of eight years, 1910-1917.² Average of seven years 1911-1917.

Annual Average Yields per acre of Field Crops, for Canada and by Provinces, for the years 1908-1917—concluded.

Crops.	Ten-year average 1908-17.	Crops.	Ten-year average 1908-17.
	per acre.		per acre.
Saskatchewan—con.	bush.	Alberta—con.	bush.
Mixed grains.....	32·25 ¹	Turnips, etc.....	250·25
Flax.....	10·50		tons.
Potatoes.....	152·25	Hay and clover.....	1·50
Turnips, etc.....	255·50	Fodder corn.....	1·75 ¹
	tons.	Alfalfa.....	2·50 ¹
Hay and clover.....	1·50	British Columbia—	bush.
Fodder corn.....	2·75 ¹	Fall wheat.....	31·00 ¹
Alfalfa.....	2·00 ¹	Spring wheat.....	28·75 ¹
Alberta—	bush.	All wheat.....	29·50 ¹
Fall wheat.....	22·00	Oats.....	56·50 ¹
Spring wheat.....	22·50	Barley.....	37·25 ¹
All wheat.....	22·50	Peas.....	29·25 ¹
Oats.....	42·00	Mixed grains.....	44·50 ¹
Barley.....	28·25	Potatoes.....	206·50 ¹
Rye.....	23·50	Turnips, etc.....	457·00 ¹
Peas.....	17·75 ¹		tons.
Mixed grains.....	28·50 ¹	Hay and clover.....	2·25 ¹
Flax.....	10·50	Fodder corn.....	8·00 ¹
Potatoes.....	161·00	Alfalfa.....	3·50 ¹

¹Average of eight years 1910-1917.

From the data in this table it will therefore in future be possible to compare the average yield per acre of each crop for any particular year not only with that of the preceding year, which may have been either exceptionally good or exceptionally bad, but also with the ten year average, which will give a truer basis for comparison. Apart from the value of the table for these purposes, the figures in themselves possess not a little interest. It is for instance interesting to note that the average yield per acre of fall wheat in Canada is 23 bushels and of spring wheat 19 bushels, as compared with the United States decennial average (1907-1916) of 15·6 bushels for winter and 13·2 bushels for spring wheat, the latter average however applying to much greater areas and total yields. The table also admits of comparisons as between the different provinces of Canada, and it will be seen that the highest average for spring wheat is in British Columbia with 28 $\frac{3}{4}$ bushels per acre for an eight-year average. Alberta is next with 22 $\frac{1}{2}$ bushels and the remaining provinces are in order as follows: Nova Scotia 19 $\frac{1}{4}$, Prince Edward Island and Saskatchewan 18 $\frac{1}{2}$, Ontario 18 $\frac{1}{4}$, New Brunswick and Manitoba 17 $\frac{3}{4}$, Quebec 15 $\frac{3}{4}$. Similar comparisons are possible for all the crops.

These records will also be utilized forthwith as a basis for reporting on the condition of crops as explained in the preceding article. It should here be acknowledged that the averages have been calculated from the data furnished annually by the Crop Correspondents of the Census and Statistics Office, to whom not only the Government authorities who collect and use them but also the general body of agriculturists and the whole community are indebted for patient and persevering services voluntarily rendered.

DOMINION EXPERIMENTAL FARMS AND STATIONS.

Central Farm, Ottawa.—The weather for March 1 to 15 was cold and dull, snow being recorded on nine of these days; but from that date to the 31st, the days, almost without exception, have been fine. The highest temperature recorded is 51.6, the lowest -6, and the mean is 25.27, compared with last year a maximum of 50.4, a minimum of -3 and a mean temperature of 24.13. The precipitation totals 1.92 inch, made up entirely of snow, which fell on eleven different days; while a year ago it amounted to 3.79 inches, which included 0.59 of an inch of rain and 32 inches of snow. The bright sunshine of the month averages 6.79 hours a day, while the previous March it averaged only 5.6 hours daily.

Charlottetown, P.E.I.—J. A. Clark, Superintendent, reports: "The first half of March was cold and stormy, with gales from the northwest. Snow was recorded on twelve different days, with a total fall of 41 inches, and traffic was completely blocked for a time. The second half of the month has been finer, with much more moderate temperatures, the thermometer rising quite a little above the freezing point on almost every day. The only rain occurred on the 23rd, when about three-quarters of an inch fell. At the close of the month there is still good sleighing, and the river ice is still strong under the winter roads. The car-ferry steamer has been able to make regular trips throughout the month between Borden and Cape Tormentine; but the greater part of the railway system was tied up for over a week, so that the mails had to be transported entirely by horses. A very satisfactory sale of fat stock was held at the Experimental Station on the 14th. The prices realized for the steers ranged from 10 to 12 cents per lb. live weight, after seventeen hours fast, the average being \$11.03 per 100 lb. Thirty lambs sold at from 16 $\frac{1}{4}$ to 17 $\frac{1}{2}$ cents per lb. live weight, after fasting, the average price being \$16.92 per 100 lb. In most localities the ground has been covered with snow continuously from December 2 to March 31, and, consequently, over large areas the ground has not been frozen, and, as the snow has melted, the water has seeped right into the soil. The clover and grass where the snow has melted off are looking well, and the prospects for the coming season are good."

Kentville, N.S.—W. S. Blair, Superintendent, reports: "March was unusually cold until the 21st, with only a few moderate days during this period. The thermometer registered below zero once during the month, -13 being recorded on the 8th. The mean temperature is 24.44, compared with an average mean of 27.03 for March during the four previous years. Snow has been recorded on eight different days, the total being 18 inches, the heaviest falls being on the 6th and 10th, when 4 and 6 inches, respectively, fell. A wind-storm accompanied the snow on the latter date and considerable drifting resulted, this being the only bad drifting snow-storm of the year. Sleighing was good until the 27th, a remarkable feature of the winter being that sleighing continued practically uninterrupted

from December 2 to March 27, and yet there have been no very heavy snowfalls during this period. The rainfall has been light, amounting to only 0.37 of an inch. The sunshine aggregates 149.9 hours, as against an average of 127.2 hours for March for the four previous years."

Nappan, N.S.—W. W. Baird, Superintendent, reports: "The first week in March was fine but cool, the second week very unsettled. On the 10th and 11th, one of the heaviest snow-storms of the season was experienced, accompanied by a very strong wind, and the consequent drifting completely tied up traffic for twenty-four hours. Another heavy snowfall, recorded on the 15th, with a strong northerly wind, also affected traffic on the public highways. From the 17th to the 23rd, the weather conditions improved, and it became more springlike. A light rain was experienced on the 20th. From the 24th to the 31st, the weather has been very fine and warm, and the snow, especially in the open, has disappeared very rapidly; but a considerable depth of it remains in the woods, and sugar-making operations are difficult. There is very little frost in the ground, and, if weather conditions continue as satisfactory as they have been during the past two weeks, an early spring may be expected. The frosts at night have been very light. There has been much stir in the hay market; the price is high and hay of good quality hard to get. The work engaged in at this Farm, other than caring for live stock and poultry, has included hauling hay and bedding, hauling manure to the fields, crushing grain, cutting straw, and cleaning seed grain for spring."

Fredericton, N.S.—W. W. Hubbard, Superintendent, reports: "While the weather during March has been some improvement on that of the preceding months, still it has been colder and rougher than the average. The mean temperature is 20.5, against 24.8 last year, and an average of 26 for the past forty-three years. The sunshine record is slightly below the average of 156 hours, with 155.35 hours. The snowfall for the month aggregates 36 inches and, as the storms have been accompanied or followed by high winds, the snow piled up on the roads, making them almost impassable in many sections. On the 31st, the snow is going rapidly and the fields are bare where the snow blew off; while parts of the roads are getting bare, other parts have almost unsurmountable drifts. The winter has proved one of the most exhaustive on fodder on record, and the large surplus of hay in the country is being rapidly reduced. Live stock is much depleted in numbers, but is in fair condition. There is a prospect of a pig crop considerably above the average, and more sheep than usual have been kept. There is a keen demand for breeding stock of all kinds."

Ste. Anne de la Pocatière, Que.—Jos. Begin, Superintendent, reports: "March has been bright, cold and dry. The highest temperature recorded during the month is 46.2, the lowest -6.4 and the mean 19.1. For the corresponding period in 1917, the extremes were 48 and 6 and the mean temperature was 24.6. The precipi-

tation totals 0.8 of an inch, comprising 0.22 of an inch of rain and 6 inches of snow; while in 1917 the precipitation totalled 2.31 inches. The bright sunshine recorded averages 6.9 hours a day, compared with 4.63 hours a day in March, 1917. Considerable high wind has been experienced during the month. Probably 60 p.c. of the snow has gone by the 31st, and the winter roads have continued to be good until the end of the month. There has been considerable hauling of lumber, pulpwood and feed during the month, this section being favoured by the best winter roads of the season. Carloads of seed grain have been imported and distributed in centres where most needed."

Cap Rouge, Que.—G. A. Langelier, Superintendent, reports: "In comparison with the last six years, March has been colder, drier and brighter. The figures, respectively, are: for 1918, mean temperature 19.88, precipitation 2.75 inches and sunshine 143.6 hours; for the period from 1912 to 1917, mean temperature 20.26, precipitation 2.64 inches and sunshine 138.8 hours. At the Station, in addition to the usual labour entailed in looking after the live stock and poultry, attention has had to be devoted to quite a number of matters, including the cleaning of seed grain sold to farmers in the district, the making of 1,300 apple grafts, the sending out of sample packets of tomato seed and the overhauling of implements, etc., preparatory for the opening of spring."

Lennoxville, Que.—J. A. McClary, Superintendent, reports: "The mean temperature for March is 22.72, the maximum 57, and the minimum -25, compared with a mean of 23.71, a maximum of 53, and a minimum of -20 for the same period last year. The bright sunshine recorded aggregates 153.7 hours, compared with 153.4 hours a year ago. The precipitation amounts to 1.6 inch, which is the same as recorded last year. The cold which has prevailed throughout the winter seemed to break on the 17th, from which date to the end of the month the weather has been fine and warm during the day with light frost at night, resulting in the gradual disappearance of the snow without any flooding. Farmers began tapping their sugar maples about the 20th, but very little syrup and sugar have been made up to the last of the month. Live stock throughout the district does not seem to be in as good condition this year as usual, no doubt due to the high price of grain and the great difficulty experienced in getting same. The farmers seem to realize the importance, this year, of looking after their supply of seeds early, and it is likely that the supply in this district will be equal to the demand in everything, except, perhaps, the early varieties of ensilage corn which are not procurable this year."

Brandon, Man.—W. C. McKillican, Superintendent, reports: "The past month has been the mildest March since 1910, the mean temperature being 28, as compared with 20.3 for 1917, and the maximum 64.2, on the 29th. The whole month has been fine and warm, except for a cold snap in the second week, when some below-zero temperatures were recorded. The precipitation has been light,

only 0.67 of an inch. Rain fell on March 28, the earliest for several years. Work on the land has been general during the last week, and a considerable quantity of seed has been sown by some farmers. Land is in excellent condition for working, but abundant rains will be necessary after seeding if a good crop is to be harvested. On the Experimental Farm, disking and ploughing began on March 26. No seed has been sown up to the 31st."

Indian Head, Sask.—W. H. Gibson, Superintendent, reports: "March opened up clear and mild, but turned colder from the 4th to the 9th. On the 10th, mild weather again set in, which continued to the end of the month. All snow was gone by the 20th, and fields were well dried up by the 25th. On the Experimental Farm, seeding commenced on the 28th. Considerable harrowing has been done throughout the district, and, if the weather remains favourable, wheat seeding promises to be general by the 2nd or 3rd of April. The work on the Experimental Farm has consisted in cleaning seed grain, hauling straw and manure, putting machinery in shape for spring work, caring for stock and poultry and sowing wheat on rotations and cultural plots."

Rosthern, Sask.—Wm. A. Munro, Superintendent, reports: "Spring is opening up about two weeks earlier than the average, and prospects point to seeding beginning by the middle of April. The sixty steers purchased last October for feed purposes have come through the winter well and show good gains and, according to present prices, promise a considerable profit. The feed has been barley straw and mixed oat and barley chop, finishing off with hay instead of straw. The labour situation in the district is more serious than ever before, although it is mitigated to a certain extent by the townspeople agreeing to help farmers."

Scott, Sask.—M. J. Tinline, Acting Superintendent, reports: "The first part of March was rough and stormy, but from the 16th to the 31st spring weather has prevailed, and, as a result, the snow on the fields has disappeared and some farmers have been able to commence work on the land. This is a month earlier than last season. The early spring is welcomed by stock men, as feed supplies were getting low. The farm labour situation in this section has improved, and there is sufficient help in sight to put in at least an average acreage. Wages are high, running from \$50 to \$75 per month, with board."

Lacombe, Alberta.—G. H. Hutton, Superintendent, reports: "The early weeks of March were cool, but towards the close of the month the weather moderated very decidedly, with the result that the large amount of snow disappeared rapidly, and work on the land was possible in some districts during the last week of the month. Should the mild weather at the close of March continue, seeding operations should be active during the first week of April. As compared with last year, spring work has begun fully thirty days earlier, and this extra period of time will give farmers an opportunity to increase the acreage sown and to prepare better the land for seed. Prices for live stock continue good, and the demand for pure-bred animals is keen."

Lethbridge, Alberta.—W. H. Fairfield, Superintendent, reports: "The weather during the first half of March was cold. It started to moderate about the middle of the month, so that by the 22nd it was possible to do some surface cultivation, such as harrowing and disking in fields that were high and sufficiently dry. By the end of the month, there is an occasional instance where ploughing has been done, but this is not at all general. There has been no seeding yet. The amount of moisture in the soil is quite satisfactory, considering the fact that the ground went into the winter in a very dry condition. From all appearances there is going to be a several times greater area of virgin soil broken this spring in southern Alberta, and put in at once with crop, than has ever been the case before. Labour is scarce, but, as work on the land is not yet general, it is impossible to say how acute the situation is likely to become. At the present time, there is enough help. At the Station, a number of high school boys have been taken on for the summer."

Invermere, B.C.—G. E. Parham, Superintendent, reports: "Snow fell on six days during March, bringing the total for the twelve months up to the high figure of 39.6 inches, which exceeds the combined totals of the two previous years. The sunshine totals 141.7 hours, which is slightly below the average. The temperature readings are about normal. The spring thaw commenced on the 15th, and, by the 23rd, the Experimental Station was clear of snow. There being little or no frost in the ground; most of the winter's precipitation has soaked into the soil, a fact which should considerably lessen the irrigation work during the coming season. The clover in the rotation and seed-production plots, benefiting by the protection of the snow, has come through the winter well. Owing to the crops being light in 1917, there is a shortage of hay in the district, and the demand is considerable. Farmers with hay to sell have no difficulty in obtaining from \$25 to \$30 a ton for it. The severe winter has caused a high mortality among the range horses and among cattle wintered in the open. In the apiary department, ten out of fourteen colonies of bees, wintered under various conditions, have come through in good shape. At the Station, preparations are being made for a comparatively early spring, which is anticipated."

Summerland, B.C.—R. H. Helmer, Superintendent, reports: "March came in very mild and calm; but high winds have been much in evidence since, all through the month, and the 31st is not only very cold and windy, but there is also a snow-storm. Apricot and peach buds are swelling fast, and all trees in the district show signs of heavy crop. Ploughing and cultivating have been general during the latter half of the month. In the Okanagan Valley, quite a number of contracts have been let for seed growing for seed houses. Large quantities of tomato plants are being grown in the hot-houses for the contracts let by a canning company on the coast. Good prices have been offered for the crop after the early market has been supplied. A car of steers has been shipped from this Station to the Coast. The roads are now in splendid shape again, and have been gravelled and graded in the bad places."

Agassiz, B.C.—W. H. Hicks, in charge, reports: "With the exception of 1916, this has been the wettest March for twenty-five years, with a precipitation of 10.66 inches, while the average precipitation for this period is 5.03 inches. Precipitation has been recorded on twenty-four days during the month. The mean temperature, 40.37, is lower than the average, while the sunshine, 79.5 hours, is somewhat less. These weather conditions are the cause of a late spring. Practically no work has yet been done on the land. The demand for all classes of live stock is very brisk, while dairy and poultry products are bringing good prices."

Sidney, Vancouver Island, B.C.—Lionel Stevenson, Superintendent, reports: "The climatic conditions experienced during March have been unusual, in that more rain and snow, with lower temperatures, prevailed than during the corresponding period of the preceding years. Repeated frosts caused much damage to wheat and clover growing on undrained lands. Some ploughing has been done, and a start was made in soil tillage during the closing days of the month. The orchard work has consisted of pruning and the first spraying for fungous troubles and aphids. Protected and well managed grazing areas have developed a fair pasturage by the end of the month. Feeds for live stock are pretty well exhausted and are high in price. Dairy stock has been reduced. Labour is short in supply, and, in many instances, too expensive to employ on the land, due to the competition of other industries."

Meteorological Record for March, 1918.

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of March are given in the following table:

Experimental Farm or Station at—	Degrees of Temperature F.			Precipitation in inches.	Hours of Sunshine.	
	High-est.	Low-est.	Mean.		Pos-sible.	Actual.
Ottawa, Ont.....	51.6	— 6.0	25.27	1.92	370	210.6
Charlottetown, P.E.I.....	45.0	—12.0	19.95	4.78	370	139.9
Kentville, N.S.....	52.0	—13.0	24.44	2.17	370	149.9
Nappan, N.S.....	49.0	—18.0	20.77	2.55	370	140.8
Fredericton, N.B.....	53.0	—26.0	20.50	3.60	370	155.3
Ste. Anne de la Pocatière, Que.....	46.2	— 6.4	19.10	0.82	370	213.4
Cap Rouge, Que.....	44.0	—10.0	19.88	2.75	370	143.6
Lennoxville, Que.....	57.0	—25.0	22.72	1.60	370	153.7
Brandon, Man.....	64.2	— 6.5	28.00	0.67	370	167.3
Indian Head, Sask.....	65.0	—12.0	27.35	0.88	370	134.9
Rosthern, Sask.....	53.2	—26.8	20.35	3.50	367	142.6
Scott, Sask.....	60.0	—25.2	20.60	0.57	367	168.1
Lacombe, Alberta.....	63.8	—35.6	14.45	3.00	370	191.6
Lethbridge, Alberta.....	67.5	—10.0	32.30	0.66	370	162.5
Invermere, B.C.....	62.0	— 5.0	30.50	0.35	369	141.7
Summerland, B.C.....	64.0	—11.0	38.74	0.30	369	118.9
Agassiz, B.C.....	60.0	20.0	40.37	10.66	370	79.5
Sidney, Vancouver I., B.C.....	57.0	23.0	40.62	4.68	370	118.1

Ottawa, April 15, 1918.

J. H. GRISDALE,
Director Experimental Farms.

CROP REPORTS FROM OTHER COUNTRIES.

England and Wales.—A return, dated February 1, from occupiers of land in England and Wales shows that the area under wheat was 2,504,000 acres, as compared with 1,725,000 acres at the corresponding date last year. This is an increase of 45 p.c. over 1917, or 56 p.c. over the average in the ten years before the war. (British Board of Trade Journal, March 28, 1918.)

India.—According to the first wheat forecast of the Indian Government, the total area sown to wheat for the season of 1917-18 is 33,912,000 acres, as compared with 32,940,000, the final estimate for 1916-17. The estimate for 1917-18 shows an increase of 3 p.c. and is the highest on record. The condition of the crop in January was reported as good, thanks to the copious monsoon of 1917. Broomhall's Corn Trade News of March 26 states that the wheat harvest in the Bombay district is in progress, and that the crop of the earliest Calcutta districts has been gathered. The opinion is expressed that the main crop is satisfactory.

France.—The crop conditions in France on March 1, 1918, were reported by the French Department of Agriculture to be as follows:

Crop.	March 1, 1917.	February 1, 1918.	March 1, 1918.
Winter wheat.....	59	71	72
Rye.....	64	72	73
Winter barley.....	60	70	71
Winter oats.....	57	68	71

The French system of crop reporting is according to the following scale: 80 = good, 60 = fairly good, 50 = fair.

United States.—The Crop-Reporting Board of the U.S. Department of Agriculture reported (April 8) that the average condition of winter wheat on April 1 was 78.6 p.c. of a normal, against 63.4 on April 1, 1917, 78.3 on April 1, 1916, and 83.6 the average condition for the past ten years on April 1. There was a decrease in condition from December 1, 1917, to April 1, 1918, of 0.7 point, as compared with an average decline in the past ten years of 5.7 points between these dates. Upon the assumption of average abandonment of acreage and average influences on the crop to harvest, the condition on April 1 forecasts a production of about 560,000,000 bushels, which compares with 418,070,000 bushels, the estimated production in 1917, and 480,553,000 in 1916. The average condition of rye on April 1 was 85.8 p.c. of a normal, against 86 on April 1, 1917, 87.8 on April 1, 1916, and 89, the average condition for the past ten years on April 1.

INTERNATIONAL INSTITUTE OF AGRICULTURE.

From the March issue of the Monthly Bulletin of Agricultural and Commercial Statistics are taken the following statements, showing (I) the area sown to winter cereals in ten countries of the northern hemisphere and (II) the production of potatoes in thirteen countries of the northern hemisphere for 1917, as compared with 1916 and the five years' average, 1911-15.

I. Winter Cereal Crops in the Northern Hemisphere, 1917-18.

Countries.	Wheat.		Rye.		Barley.		Oats.	
	000 acres.	p.c. of 1917.	000 acres.	p.c. of 1917.	000 acres.	p.c. of 1917.	000 acres.	p.c. of 1917.
Denmark.....	141	102.4	538	118.0	—	—	—	—
Spain.....	9,673	95.4	1,970	107.7	3,840	100.0	1,339	114.6
France.....	11,360	107.5	1,955	95.6	249	92.2	1,711	106.4
Scotland.....	67	121.8	—	—	—	—	—	—
Luxemburg.....	23	104.8	16	94.8	—	—	—	—
Canada.....	711	96.4	—	—	—	—	—	—
United States.....	42,171	105.2	6,119	145.2	—	—	—	—
British India.....	33,912	103.0	—	—	—	—	—	—
Japan.....	1,458	118.0	—	—	2,721	99.4	—	—
Tunis.....	1,483	113.2	—	—	1,154	111.2	148	120.0

Table I applies only to winter sown cereals, and the figures of greatest significance are those relating to wheat. These show an increase of 7.5 p.c. in France, against which, however, must be set a decrease of nearly 5 p.c. in the wheat acreage of Spain. Both the United States and India show satisfactory wheat increases of 5 and 3 p.c. respectively.

II. Acreage and Yield of Potatoes in Countries of the Northern Hemisphere, 1916 and 1917, with Percentage Comparisons.

Country.	1916.	1917.	Five years' average 1911-1915.	Per cent of 1916.	Per cent of average.	1916.	1917.	Five years' average 1911-1915.	Per cent of 1916.	Per cent of average.
	000 acres.	000 acres.	000 acres.	p.c.	p.c.	000 bush.	000 bush.	000 bush.	p.c.	p.c.
France.....	3,222	3,482	3,708	108.1	93.9	335,510	401,340	456,919	119.6	87.8
England and Wales.....	428	508	452	118.7	112.4	93,501	124,693	103,018	133.4	121.0
Scotland.....	130	148	148	113.5	100.1	19,824	41,440	36,842	209.0	112.5
Ireland.....	586	709	589	121.0	120.4	90,845	155,036	127,954	107.7	121.2
Italy.....	729	791	719	108.4	109.9	54,278	55,116	60,414	101.5	91.2
Luxemburg.....	34	27	37	77.5	72.7	2,971	5,924	6,544	199.4	93.5
Norway.....	114	114	103	100.0	111.2	29,190	28,845	23,700	95.0	117.0
Netherlands.....	425	419	424	98.7	98.9	88,490	89,859	97,989	101.5	91.7
Sweden.....	373	366	378	98.2	97.0	54,972	64,559	63,388	117.4	101.8
Switzerland.....	135	140	116	—	—	18,372	36,376	24,912	—	—
Canada.....	473	657	478	138.9	137.4	17,227	19,022	20,844	110.4	91.3
United States.....	3,550	4,390	3,689	123.7	119.0	285,442	442,543	362,916	155.0	121.0
Japan.....	231	246	188	106.2	130.7	39,000	36,924	27,416	94.7	134.7
Totals and averages	10,430	11,997	11,029	115.0	108.8	1,129,622	1,501,677	1,412,856	132.8	106.2

Table II shows that the acreage under potatoes for 1917 for 12 countries was 15 p.c. above that of 1916 and 8.8 p.c. above that of the quinquennial average, whilst the total yield for 13 countries was nearly 33 p.c. above 1916 and over 6 p.c. above the five year average. The yields per acre in 1917 range from the lowest of 172.33 bushels in Italy to the highest of 693.35 bushels in Scotland. The average for ten countries is 319.67 bushels as compared with 278.52 bushels in 1916 and 329.22 bushels, the average of the five years 1911-15.

A cablegram received on April 29, 1918, from the Institute states that the estimated production of wheat for 1917-18 in Argentina is 218,628,000 bushels, which is 211.3 p.c. above the production of the previous year and 35.8 p.c. above that of the five-year average. The Argentina oat crop for 1917-18 is estimated to be 74,569,000 bushels, which is 149.3 p.c. above that of 1916-17 and 23.5 p.c. above the five-year average.

AGRICULTURAL METEOROLOGY¹.

RELATION OF THE WEATHER TO THE YIELD OF WHEAT IN MANITOBA.

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During the years 1915, 1916 and 1917, special plots of Marquis wheat were grown at the Dominion Experimental Farms for the purpose of simultaneous observations of plant-growth and weather-changes. In earlier years the Dominion Chemist (Dr. FRANK T. SHUTT) had maintained such special plots in pursuit of an investigation into the influence of environment upon the growth of wheat, the annual results from plots in Ontario, Quebec and the Maritime Provinces having been compared with the results from plots in the Prairie Provinces.²

Upon the inception of the Division of Agricultural Meteorology by the Meteorological Service, Dr. SHUTT arranged that these plots should serve for both Departments. At all the farms daily observations of the meteorological instruments are made throughout the year, while upon one special plot at each farm is grown Marquis wheat from seed raised in the previous year at Indian Head, and distributed after testing by the Division of Chemistry. The plot is always as near to the meteorological instruments as is found feasible. Dates of sowing, appearance above ground, stooling, stem roots, heading, flowering, milk-stage, maturity, cutting, are carefully noted, as well as the average height of the plants every seven days. Particulars of fertilizers used, of method of cultivation, of fungous diseases, of space occupied by weeds and other details are also kept. At the close of the season the yield of grain and straw is noted, and samples are sent to Ottawa.

¹ See Influence of the Weather upon Farm Crops, Monthly Bulletin of Agricultural Statistics, March, 1918 (Vol. 11, No. 115, p. 81).

² See Reports of the Dominion Chemist in Annual Reports of the Dominion Experimental Farms: 1909, p. 140; 1910, p. 193 and 1911, p. 165.

There are many related paths of investigation to be followed much further than the data we have at present accumulated will allow before we may hope to attain any conclusive results. In this introductory article some of the more striking relations, which the preliminary analysis has indicated as subsisting between yields of spring wheat in Manitoba and the weather of the growing-season, will be pointed out. Certain working hypotheses have been tentatively adopted in order to give the research a definite plan, but since these are likely to be greatly modified as the investigation progresses and new data are obtained, they will be touched upon in this article but lightly.

The first work that was done after the first year's data from the plots were available was the graphical representation of the data in the style first published by BROOUNOFF, of the Russian Agricultural Department. These diagrams served only to emphasize the innate refractoriness of the problem. Nor did the diagrams for the second year serve at all to elucidate the difficulties, since the damage suffered from rust in that year introduced an entirely new factor whose influence cannot be measured and eliminated from the data. A large number of the plots in 1917 were free from disease or accident, and the data for that year have been charted in the same graphical manner.

The value of these diagrams will be greatly enhanced as the data are increased by the observations of succeeding years, but at present greater use has been made of the direct tabulations of the figures themselves. Various pairs of frequencies among the variates, which considerations *a priori* led one to believe correlated, were tested. Although many of these pairs yielded correlation coefficients not of negligible magnitude, yet all were to a certain extent doubtful on account of the small number of observations as yet available. In a few cases it was possible to draw a very probable curve for the function in question. Some of these preliminary findings were as follows:—

1. There appeared to be a relation between the length of the period from sowing to heading, or from appearance of the plants to heading, and the subsequent yield, the longer periods being positively related to the greater yields.

2. There appeared to be a positive correlation between the yield of straw and the length of the period from appearance to heading.

3. While from the above it should follow that there is a positive correlation between the yield of straw and the yield of grain, yet this seemed to be true only for the smaller and larger yields of grain, intermediate yields of grain varying independently of the length of straw.

4. The length of the period from appearance to heading, when plotted against the mean daily minimum temperature of the same period, gave a relation between these variables which is fairly well represented by the equation $pt = 789 + 10t + 24p$ in which $\frac{dp}{dt}$ is negative¹ and p is the period in days and t the mean minimum in degrees Fahr.

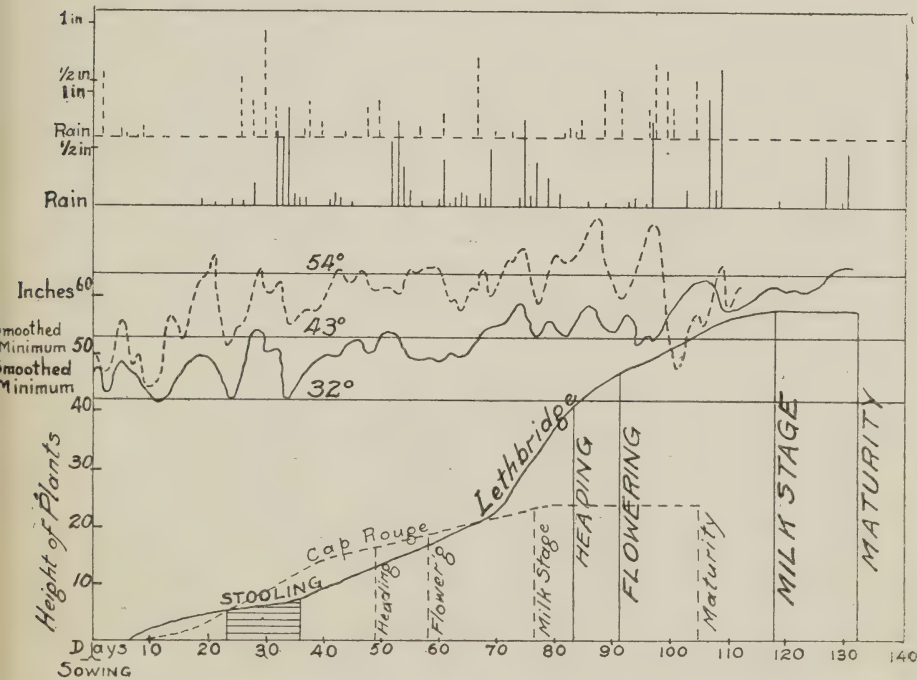
¹i.e. p decreases as t increases.—Ed.

5. The moments of the plotted points about this last curve seemed to be correlated with the rainfall of the same period; so that p appeared in general to increase directly as the rainfall and inversely as the rise in temperature.

It will be remembered that in Broounoff's memoirs upon the growth of cereal plants, he names the period before heading, approximately ten days before, as the "critical period". In this period rain is necessary for a good yield. He wrote:

L'inspection des autres graphiques nous amène à des conclusions analogues. On peut les formuler de la manière suivante: il existe une période particulière pour la végétation de l'avoine qu'on peut appeler critique par rapport aux précipitations atmosphériques. Leur abondance à cette époque produit un bon rendement, leur absence en détermine un mauvais. BROOUNOFF, Les Cultures Agricoles et le Temps, Petrograd, 1912.

If this statement in regard to oats is to be assumed to hold for wheat, there immediately arises a difficulty in regard to the relations found above. These show that the time of heading is a moving point, the motion inverse to the minimum temperature, and therefore any selected period in days preceding heading, if expressed in terms of the age of the plant, is itself a variable depending on the weather since appearance. It therefore appears that the true explanation



Date of sowing at Lethbridge, April 12; at Cap Rouge, May 18. Soil at Lethbridge, chocolate loam, 18 inches deep. Soil at Cap Rouge, mellow but slightly acid, sandy loam, subsoil shale.
NOTE.—The broken lines refer to Cap Rouge and the unbroken lines to Lethbridge.

of the "critical period" is as follows. If in the earlier stages of the wheat's growth there be cool and rainy weather, the heading will be delayed and the subsequent yield will be heavy, but if the weather be warm and dry, heading will be hastened and the subsequent yield will be light. To illustrate this point the curves of growth for the highest and lowest yields of the 1915 plots are shown. (See diagram on p. 117.) These are, of course, extreme cases, and in the intermediate cases the growth-curves do not vary with the weather in any fashion that is at present recognizable. It is, however, manifest that the area under the growth-curve in the case where the yield is a minimum, is itself a minimum, and that also the maximum area under the growth-curve corresponds to the maximum yield. These were the plots at Cap Rouge, Quebec, and at Lethbridge, Alberta, the curves for which form the diagram. Taking numerical integrals by the planimeter in all cases and plotting against the yields, we do not, however, find any simple relation between yield and integral.

It is always allowable and generally profitable to form a theory in advance in such cases in order to have a working hypothesis for further investigation. In the present instance the theory set up is that at any instant the height of the straw is a measure of the rate at which the plant is receiving or utilizing nourishment, while the integral of this rate between appearance and milky maturity is the measure of the total nutriment received. But since a portion of this nutriment is expended in producing the straw, and a part expended in the energy of the life-processes, the integral will not be directly proportional to the yield in grain. There is, therefore, to be found the relation between these integrals and the resulting yields, which will involve also the yields of straw. Only the data for 1915 and 1917 are useful for this inquiry, since the straw was badly rusted in 1916. Progress in this part of the investigation is being made; but the fact that measurements of heights are taken only every seven days, and that no count was kept of the number of plants standing upon the plot, has made interpretation of the data difficult. More detailed observations may be possible this year.

In order to test some of these findings by a totally independent set of data, there was obtained from the Census and Statistics Office a list of the annual yields of spring wheat in Manitoba since 1883. Commencing with the year 1908 the Census and Statistics Office has made a separate estimate of the yield, but prior to that year the estimates are those of the Provincial Department of Agriculture. For the years from 1908 to 1916 there are, therefore, two estimates, which differ in the case of minimum variation by 0.3 bushel, and in the case of maximum variation by 4.3 bushels per acre.

In order to make use of these figures it was necessary to obtain the dates of sowing in each year. The only method was to have recourse to the Annual Reports of the Superintendent of the Brandon Experimental Farm, who gives the date upon which sowing became general throughout the province in most of his reports, beginning

with that for 1890. The data for three bad "rust-years" were first eliminated. The period after the date of sowing was divided into 30-day periods. The map of the Department of the Interior showing the spring wheat areas of Manitoba was then consulted, and several meteorological stations chosen so as to have one in each of six districts. For these stations the records since 1890 were obtained and the total rainfall for each 30-day period counted in each year from the date of sowing of wheat, was found. This was a time-consuming task, and therefore, it was decided that the mean temperature, mean maximum and minimum, and mean daily range of temperature for the same periods should be taken from Winnipeg and Minnedosa records only, the average of the two cases being regarded as the provincial mean. After the data had been put into this form the correlations between the various factors and the annual yields were found. The results were as tabulated below.

RAINFALL CORRELATIONS.

	30-day Periods.				60-day Periods.			90-day Periods.		120-day Periods.
	I	II	III	IV	I & II	II & III	III & IV	I & II & III	II & III & IV	I, II, III, IV
Correlation coefficient...	+·28	+·15	+·42	+·10	+·26	+·50	+·41	+·55	+·52	+·57
Probable error	±·13	±·14	±·11	±·14	±·13	±·11	±·12	±·10	±·10	±·09

	30 days before Sowing.	60 days (before & I).	90 days (before & I & II).	150 days from 30 days prior to sowing to 120 days after.
Correlation coefficient.	+·01	+·22	+·24	+·57
Probable error.....	±·14	±·13	±·13	±·09

RANGE OF TEMPERATURE CORRELATIONS.

	30-day Periods.				60-day Periods.			90-day Periods.		120-day Period.
	I	II	III	IV	I & II	II & III	III & IV	I & II & III	II & III & IV	I & II & III & IV
Coefficient.....	-·07	-·17	-·55	-·42	-·15	-·39	-·48	-·34	-·40	-·42
Probable error	±·14	±·14	±·10	±·12	±·14	±·12	±·11	±·12	±·12	±·12

MINIMUM TEMPERATURE CORRELATIONS.

	30-day Periods.				60-day Periods.			90-day Periods.		120-day Periods.
	I	II	III	IV	I & II	II & III	III & IV	I & II & III	II & III & IV	I & II & III & IV
Coefficient.....	·00	·23	·40	·00	·13	·37	·37	·22	·36	·25
Probable error	±·14	±·14	±·12	±·14	±·14	±·12	±·12	±·13	±·12	±·13

In examining these correlation coefficients too great stress must not be laid upon the actual magnitudes, since the number of instances upon which they are based is comparatively few. It should, however, be borne in mind that the underlying data are averaged from large areas, a fact which adds weight to the final results.

In regard to rainfall there appears that (1) the effect of the rainfall of the 30 days preceding sowing had, in the long run, no effect upon the subsequent yield; (2) in each of the 30-day periods after sowing, and in all combinations of them, the effect of increased rainfall was to increase the yield, except, perhaps, the fourth; (3) the rainfall of the third 30 days after sowing was the most potent in increasing the yield; (4) that the rainfall effect was cumulative, the correlation coefficient for the 120 days being the largest.

In regard to mean daily range of temperature there appears (1) that in all the 30-day periods succeeding sowing the coefficient was negative, indicating that the yield was increased by a lowered range; (2) that in the case of the first period after sowing the coefficient is negligible; (3) that in the case of the third period the coefficient is largest, five and one-half times the probable error; (4) that any combination of other periods with the third produces a smaller coefficient than that for the third alone.

In regard to mean daily minimum temperature, we have that (1) the effect of this factor in the first and fourth periods after sowing is zero; (2) in the second and third periods the coefficient is negative, indicating that the yield is increased by a lowered temperature; (3) in the case of the third 30 days after sowing, the coefficient is greatest; (4) combinations of other periods with the third produce a smaller coefficient.

Summarized in the most general terms, the foregoing statements may be reduced to the assertion that the wheat plant demands moisture and coolness prior to the 91st day after sowing, and the subsequent yield is most reduced by large ranges of temperature during the third thirty-days after sowing. There is a general concordance between the conclusions reached from the two independent sets of data: that from the experimental plots, and that from the annual provincial averages; the latter set, however, has brought out the paramount importance of the daily range of temperature.

From the results so far attained it is not educible that there is a critical period of short duration. The coefficients for the third 30 days after sowing are the largest, but this division into 30-day periods was arbitrarily chosen, and there is nothing to show that a larger or smaller period, if chosen, might not have revealed still larger coefficients. From the two sets of data, together, without more detailed treatment, we may assert with fair justification, that the first 90 days after sowing are very important with regard to moisture and coolness, but that ordinarily there is sufficient moisture in the soil in the first 60 days for the young plants, and low enough ranges of temperatures to prevent evaporation to a harmful extent. During the latter part of the 90-day period, however, there will ordinarily obtain midsummer weather with increased probability of heat and drought, and in this regard the last part of the 90 days after sowing may be said to be a "critical period". If in this "critical" time the weather be warm, dry, with great temperature range, the wheat-plants will head early and the harvest will be light, but if the cool and moist conditions continue, heading will be postponed and the yield increased. Now the average date of sowing of wheat in Manitoba since 1890 is approximately April 25, which will fix the average time of the "critical period" as the last week of June and the first three weeks of July. Hence the variability of early July weather may be regarded as the "critical factor" in wheat-production in Manitoba.

Over this variability there is no control, except in so far as methods of cultivation can lessen its ill effect, or in so far as a change in the time of sowing might serve to throw the variable weather period later than the 90th day. The investigation of this latter possibility is scarcely worth while in regard to Manitoba, since it would appear that in general the very earliest sowing is the best and this is the method in practice. In Ontario and the eastern provinces, however, the curves of growth from the experimental plots show that the comparatively late sowing of spring wheat does not assure the plants that cool, moist weather during the first 90 days which appears to be demanded.

The other method of control, namely, that of cultivation, was investigated in a preliminary way by choosing data from the Reports of the Experimental Farm at Brandon, so that a series of yields from fields which had been summer-fallowed was obtained. A similar method of analysis of 30-day periods was carried out and the correlation coefficients formed. Later, an attempt was made to separate these data into two series, one for summer-fallow on heavy soil, and one for summer-fallow on light soil. While these last two series suffer from the fewness of items, which increases the probable error, some interesting results were obtained. On the summer-fallowed plots the coefficient of the rainfall in the third 30 days is negligible, while that for the full 120 days is much reduced. The coefficient of the range for the same 30 days is reduced from 0.55, as given in the provincial table, to 0.35, while that for the minimum becomes practically zero. On light soil which had been

summer-fallowed, rainfall and minimum temperature coefficients were very small, but that for range of temperature was increased to 0.60, which may be interpreted to mean only that light soil, whether fallowed or not in the previous season, is very subject to loss of moisture from large temperature ranges, or it may be interpreted to mean that fallowing light soil increases this tendency. The question needs two series to be analysed, one from light soil not fallowed, one from light soil previously fallowed. Such series are not yet available. For heavy soils which had been summer-fallowed the sign of the coefficient is reversed for range of temperature, while that for the rainfall of the whole season becomes very small. It would appear, therefore, as far as our short records can be relied upon, that a clayey soil summer-fallowed in the previous year has the best chance of carrying a wheat crop through heat and drought: but that any soil, save perhaps the very lightest, summer-fallowed, carries good assurance against failure.

In view of the relatively large magnitudes of the correlation coefficients for the third 30 days in Manitoba, it appeared to be possible to express the resulting yields of grain as a function of the weather of the third period. The usual method of forming a regression-equation did not seem to me to be applicable here since that would involve the average weather of the third period. Now the earliest date of sowing in Manitoba has been April 1 and the latest May 10. The third period may therefore begin early in June or late in July according to the sowing; whether early or late. The average weather of the third period would therefore be scarcely an intelligible quantity to use as a constant in an equation. The three variables used were the rainfall, mean daily minimum temperature and mean daily range of temperature, all of the third 30 days after sowing, and it was found that these are to some extent inter-correlated. The minimum is slightly and the rainfall to a much greater degree correlated with the range, both negatively, while there is no relation between the minimum and the rain. Since the rainfall is related positively and the other factors negatively to the yield of wheat, the

quotient $\frac{\text{Rain}}{\text{range} \times \text{minimum}}$ should be related positively. The plotting of these quotients against the yields led to the following equation:

If Y be the yield in bushels per acre,
 m the mean minimum temperature,
 p the total precipitation for the 30 days,
 r the mean daily range,
 m' be (m-40),

$$\text{then } Y = .434 \left(m - \frac{r}{2} \right) \log \frac{1000 p}{rm'}$$

If the mean daily temperature be denoted by t, then the quantity $\left(m - \frac{r}{2} \right)$ may be written (t-r).¹

¹It is probable that closer approximation might be obtained by least-square treatment of (m-40), the constant 40 being slightly changed.

The calculated values of Y and values from the Provincial Government's estimate are given below. As noted before, the provincial and federal estimates have differed by as much as 4.3 bushels per acre. In 18 out of 23 the difference between the calculated yield and the provincial estimate is less than this; while in 17 instances the difference is less than 3 bushels. The importance of the weather of this third 30 days after sowing in Manitoba is thus emphasized.

Year.	Provincial estimate.	Calculated.	Difference.	Year.	Provincial estimate.	Calculated	Difference.
1890	19.7	19.5	-0.2	1903	16.4	15.4	- 1.0
1891	25.3	23.8	+ 1.5	1905	21.1	23.1	+ 2.0
1892	16.5	18.5	+ 2.1	1907	14.2	13.8	- 0.4
1893	15.6	12.5	- 3.1	1908	17.3	16.0	- 1.3
1894	17.0	18.3	+ 1.3	1909	17.3	15.5	- 1.8
1895	27.9	19.6	- 8.3 ¹	1910	13.5	15.6	+ 2.1
1897	14.1	21.1	+ 7.0 ²	1911	18.3	18.3	0.0
1898	17.0	23.1	+ 6.1 ³	1912	20.7	21.7	+ 1.0
1899	17.1	17.2	+ 0.1	1913	20.0	19.3	- 0.7
1900	8.9	10.4	+ 1.5	1914	15.5	15.2	- 0.3
1901	25.1	24.8	- 0.3	1915	26.4	20.7	- 5.7 ⁵
1902	26.0	14.5	-11.5 ⁴				

¹Unaccounted for. ²Damaged in 2nd 30 days. ³Damaged in 2nd and 1st 30 days.

⁴Very wet 2nd period; rainfall of 3rd period insufficient to express soil moisture.

⁵Extraordinary fall-ploughing in 1914.

In the case of the yield for 1915 I have been inclined to attribute the increase in the yield over that calculated to the extraordinary amount of fall-ploughing which is mentioned on page 143 of the Canada Year Book for 1915¹. This explanation is based on the belief that ordinarily a considerable amount of wheat is sown in the spring on wheat-stubble very lightly worked, while an extraordinary amount of fall-ploughing might have resulted in a larger area of better prepared soil.

In the case of 1897 and in that of 1898 early droughts and drying winds evidently set the plants back to an extent that subsequent good weather could not remedy. In the case of 1902, the extremely wet second period seemed to have supplied such a quantity of moisture as offset the very scanty rainfall of the third period. In 1895 the provincial estimate shows a very high yield which the weather of the whole season does not seem to justify, if one assumes that there was no systematic improvement in the methods of cultivation in the province during that year.

Concerning the variation in the chemical composition of the wheat-kernels and its possible dependence on weather changes, not sufficient progress in the investigation has been made to warrant lengthy notice here. The meteorologist is sadly handicapped in such inquiry

¹ See also Census and Statistics Monthly for November 1914, pp. 276 and 278 and for January 1916, p. 1.

because of the fact that little or nothing can be gleaned from plant-physiologists in explanation of the processes of formation of starches, proteids, glucosides, etc., which would serve to give him a clear idea of the mode of conversion of the products of assimilation. The problem as it stands from the standpoint of the agricultural meteorologist is to relate the variations in the products of an unknown process to the simultaneous weather-changes. These variations are most familiarly known as the changes in the relative "hardness" of the wheat and have a great practical importance because of the corresponding changes in the quality of the resulting flours.

The Dominion Chemist has supplied the Meteorological Office each year with the results of the analysis of kernels from each of the experimental plots. The first attempts were directed to finding a relation between nitrogen-content and the weather of various periods, attempts which have been unsuccessful up to the present at least. Quite lately, I have changed the direction of the investigation. In view of the frank admissions of plant-physiologists as to inability to explain the conversion processes in plants, I took the liberty of forming a tentative theory regarding the variations in the chemical content of wheat, which, based upon what evidence was available, is purely hypothetical and is intended to serve as a plan of investigation only. This theory or supposition rests upon the fact that when the protein-content of the grain falls the starch content, in general, rises. It seemed better therefore, to relate the variation in starch-content to the weather-changes, which led to the hypothesis that the total starch-content of the grain varies directly as the amount of water transpired by the plant from heading to maturity. To show this from the experimental plots, or to disprove it, is that which is at present being attempted. No method of measuring the transpiration has yet been devised for the field, but it is hoped that supplementary observations in future years may supply approximate information. If this hypothesis be found true it will explain such results as that of Thatcher (Agr. Exp. St. Pullman, Wash.) in 1906 and 1908, who found that after growing wheat under the shade of 16 ounce duck canvas, the average percentage of crude protein was 2.26 (dry-matter basis) in favour of the shaded portions of the plots. The table he gives shows that the starch-content in favour of the unshaded portions varies by 4.5 to 7.2 for the four plots of which the starch-content is given. It seems natural to suppose that the transpiration from the plants continuously under the shade of 16 ounce duck should be much less than from plants unshaded.

Upon the same hypothesis we must assume that the factors favourable to starchy grain are a moist soil with bright sunshine, low humidity, high temperature and drying winds. Since these last concomitants are inimical to the maintenance of the soil in a moist condition, the rate of transpiration would rapidly fall on account of exhaustion of soil-moisture unless the moisture were continuously renewed. This might be done by irrigation or in nature by frequent showers alternating with bright, hot, dry weather. The factors favourable to decreased starch-content, and therefore, by implication,

to increased nitrogen-content, are those which tend to keep in check the transpiration of water by the plants, such as high atmospheric humidity, cloudiness, absence of winds, low moisture-content of the soil. Conditions which we have already seen will reduce the yield of wheat (viz., high minimum temperatures, increased ranges of temperature combined with lack of soil-moisture, which bring on early maturity) will also make it impossible for the plant to continue the transpiration of water in any great volume. We may, therefore, suppose that in general light yields of wheat tend to be "harder" in quality than large yields. Further investigation into these matters may either confirm or deny these hypotheses.

THE WEATHER DURING MARCH.

The Dominion Meteorological Office reports that the temperature was above the average from the eastern half of British Columbia to the Quebec boundary, and below elsewhere in the Dominion. The negative departure was 3° on the coast line of British Columbia, from 3° to 6° over the greater part of Quebec, and 6° in the Maritime Provinces. The positive departure ranged from 3° in the extreme western portion of Alberta to 15° in southern Manitoba, while in Ontario it was from 3° to 6°. The precipitation was below the average in all portions of the Dominion, except at a few points in Alberta and Saskatchewan, and along the coast line of British Columbia, where there was an excess. The deficiency was very marked from Ontario to the Maritime Provinces. In Ontario many points recorded from one to three inches less than the usual quantity, Quebec from one and a half to three inches less, and the Maritime Provinces from one to two and a half inches less. At the close of the month snow still lay on the ground to a depth of from 10 to over 30 inches in the province of Quebec and in northern New Brunswick. There was also a considerable snow-covering in the far northern portions of Ontario and British Columbia; elsewhere there was none left except patches where heavy drifting had occurred.

PRICES OF AGRICULTURAL PRODUCE, 1918.

I. Average Prices of British-grown Grain, 1918.

(From the "London Gazette", as published pursuant to s. 8 of the Corn Returns Act, 1882.)

Week ended—	Wheat.		Barley.		Oats.	
	per quarter.	per bushel.	per quarter.	per bushel.	per quarter.	per bushel.
	s. d.	\$	s. d.	\$	s. d.	\$
March 2.....	72 2	2.195	57 9	1.686	52 0	1.367
" 9.....	72 3	2.197	58 5	1.706	52 2	1.382
" 16.....	72 4	2.200	56 10	1.659	51 0	1.353
" 23.....	72 3	2.197	56 9	1.657	50 3	1.323
" 30.....	72 4	2.200	56 7	1.652	48 10	1.294
Average.....	72 3	2.198	57 3	1.672	51 3	1.344

II. Weekly Range of Prices per bushel of Canadian Grain at Winnipeg and Fort William, 1918.

(Furnished by the Board of Grain Commissioners for Canada, Fort William, Ont.)

Grain and Grade.	March 2.		March 9.		March 16.		March 23.		March 30.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	
Wheat—										
No. 1 Nor.....	2 21	—	2 21	—	2 21	—	2 21	—	2 21	
No. 2 Nor.....	2 18	—	2 18	—	2 18	—	2 18	—	2 18	
No. 3 Nor.....	2 15	—	2 15	—	2 15	—	2 15	—	2 15	
No. 4.....	2 08	—	2 08	—	2 08	—	2 08	—	2 08	
No. 5.....	1 96	—	1 96	—	1 96	—	1 96	—	1 96	
No. 6.....	1 87	—	1 87	—	1 87	—	1 87	—	1 87	
Feed.....	1 70	—1 72	1 72	—1 78	1 75	—1 78	1 75	—1 77	—	
Oats—										
No. 2 C.W.....	0 95 ³ / ₄	—0 97 ¹ / ₄	0 97 ¹ / ₈	—1 00	0 92 ³ / ₈	—0 98 ³ / ₈	0 95 ¹ / ₂	—0 98	0 94 ¹ / ₂	—0 95 ³ / ₄
No. 3 C.W.....	0 92 ³ / ₄	—0 94 ¹ / ₂	0 94 ¹ / ₈	—0 96 ¹ / ₂	0 88 ³ / ₈	—0 95 ¹ / ₂	0 91 ¹ / ₂	—0 94	0 90 ¹ / ₂	—0 91 ¹ / ₂
No. 1 Feed Ex.....	0 90 ⁷ / ₈	—0 92 ³ / ₄	0 93 ¹ / ₈	—0 95 ¹ / ₂	0 87 ¹ / ₈	—0 94 ¹ / ₂	0 90 ¹ / ₂	—0 93	0 88 ³ / ₈	—0 90 ⁷ / ₈
No. 1 Feed.....	0 86 ¹ / ₈	—0 89 ³ / ₄	0 90 ¹ / ₈	—0 92 ⁵ / ₈	0 85 ³ / ₈	—0 91 ¹ / ₂	0 88 ³ / ₈	—0 91 ¹ / ₂	0 87 ¹ / ₈	—0 89 ¹ / ₄
No. 2 Feed.....	0 84 ³ / ₄	—0 86 ¹ / ₄	0 86 ¹ / ₈	—0 88 ³ / ₈	0 80 ³ / ₈	—0 87 ¹ / ₄	0 83 ¹ / ₄	—0 86 ¹ / ₂	0 83 ¹ / ₈	—0 84 ¹ / ₄
Barley—										
No. 3 C.W.....	1 71 ¹ / ₄	—1 76 ¹ / ₄	1 76 ¹ / ₈	—1 92 ¹ / ₂	1 87	—1 98	1 80	—1 85	1 65	—1 70
No. 4 C.W.....	1 66 ¹ / ₄	—1 71 ¹ / ₄	1 71 ¹ / ₈	—1 87 ¹ / ₄	1 82	—1 93	1 75	—1 80	1 60	—1 65
Rejected.....	1 38	—1 42	1 44	—1 57	1 56	—1 58	1 50	—1 57	1 45	—
Feed.....	1 36	—1 40	1 42	—1 55	1 53	—1 56	1 50	—1 54	1 40	—
Flax—										
No. 1 N.W.C.....	3 50 ¹ / ₂	—3 67 ¹ / ₂	3 72 ¹ / ₂	—3 90	3 83	—3 97 ¹ / ₂	3 82 ³ / ₈	—3 97 ³ / ₈	3 82 ¹ / ₄	—3 94
No. 2 C.W.....	3 46	—3 63	3 68	—3 84	3 78	—3 93 ¹ / ₂	3 77 ³ / ₈	—3 92 ³ / ₈	3 77 ¹ / ₂	—3 89 ¹ / ₂
No. 3 C.W.....	3 28 ¹ / ₂	—3 45	3 50	—3 68	3 61	—3 77 ¹ / ₂	3 60 ³ / ₈	—3 75 ³ / ₈	3 60	—3 71 ¹ / ₂

III. Monthly Range of Prices per bushel of Grain at Selected Markets in the United States, 1917-18.

(From the Monthly Crop Report of the U.S. Department of Agriculture.)

Grade and Market.	December.	January.	February.	March.
	\$ c.	\$ c.	\$ c.	\$ c.
Wheat, Red Winter, No. 2—				
St. Louis.....	2 15	2 15	2 15	2 15
Chicago.....	2 17	2 17	2 17	2 17
New York (f.o.b. afloat).....	2 26	2 26	2 26	2 26
Corn, No. 2, mixed—				
St. Louis.....	1 75	1 75	—	1 60 —1 90
New York (f.o.b. afloat).....	—	—	—	—
Corn No. 2—				
Chicago.....	1 80 —1 85	1 80 —1 85	1 75 —1 80	1 65 —1 75
Oats No. 2—				
St. Louis.....	0 80	—0 80	—0 86 ¹ / ₂	—0 86 —0 95 ¹ / ₂
Chicago.....	0 78 ¹ / ₂ —0 79	0 78 ¹ / ₂ —0 79	0 80 ¹ / ₂ —0 81 ¹ / ₂	0 84 ¹ / ₂ —0 92 ¹ / ₂
Rye, No. 2—				
Chicago.....	1 82 —1 84	1 82 —1 84	2 10 —2 18	2 72 —2 95

IV. Range of Prices of Imported Grain and Flour at British Markets, 1918.

(From the "Mark Lane Express", London, England.)

MARK LANE, LONDON, E.C.

Description.	March 4.		March 11.		March 18.		March 25.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat (per bush.)—								
Canadian No. 1.....	2 42	—	2 42	—	2 42	—	2 42	—
“ No. 2.....	2 37	—	2 37	—	2 37	—	2 37	—
“ No. 3.....	2 30 $\frac{1}{4}$	—	2 30 $\frac{1}{4}$	—	2 30 $\frac{1}{4}$	—	2 30 $\frac{1}{4}$	—
“ No. 4.....	—	—	2 25	—	2 25	—	—	—
American—								
Spring.....	2 35 $\frac{2}{3}$	— 2 38 $\frac{1}{3}$	2 35 $\frac{1}{3}$	— 2 38 $\frac{2}{3}$	2 35 $\frac{2}{3}$	— 2 38 $\frac{1}{3}$	2 35 $\frac{1}{3}$	— 2 38 $\frac{2}{3}$
Hard Winter.....	2 32 $\frac{2}{3}$	— 2 35 $\frac{2}{3}$	2 32 $\frac{1}{3}$	— 2 35 $\frac{2}{3}$	2 32 $\frac{2}{3}$	— 2 35 $\frac{2}{3}$	2 32 $\frac{2}{3}$	— 2 35 $\frac{2}{3}$
Red Winter.....	2 26 $\frac{1}{2}$	— 2 32 $\frac{2}{3}$	2 26 $\frac{1}{2}$	— 2 32 $\frac{2}{3}$	2 26 $\frac{1}{2}$	— 2 32 $\frac{2}{3}$	2 26 $\frac{1}{2}$	— 2 32 $\frac{2}{3}$
Australian.....	2 48	—	2 48	—	2 48	—	2 48	—
Indian.....	2 41 $\frac{1}{4}$	— 2 47 $\frac{1}{2}$	2 41 $\frac{1}{4}$	— 2 47 $\frac{1}{2}$	2 41 $\frac{1}{4}$	— 2 47 $\frac{1}{2}$	2 41 $\frac{1}{4}$	— 2 47 $\frac{1}{2}$
Californian.....	2 38 $\frac{1}{4}$	— 2 41 $\frac{1}{4}$	2 38 $\frac{1}{4}$	— 2 41 $\frac{1}{4}$	2 38 $\frac{1}{4}$	— 2 41 $\frac{1}{4}$	2 38 $\frac{1}{4}$	— 2 41 $\frac{1}{4}$
Argentine.....	2 41 $\frac{1}{4}$	—	2 41 $\frac{1}{4}$	—	2 41 $\frac{1}{4}$	—	2 41 $\frac{1}{4}$	—
Oats (per bush.)—								
Canadian.....	1 65 $\frac{1}{4}$	— 1 68	1 65 $\frac{1}{4}$	— 1 68	1 65 $\frac{1}{4}$	— 1 68	1 65 $\frac{1}{4}$	— 1 68
American.....	1 57 $\frac{3}{4}$	— 1 60 $\frac{1}{4}$	1 57 $\frac{3}{4}$	— 1 60 $\frac{1}{4}$	1 57 $\frac{3}{4}$	— 1 60 $\frac{1}{4}$	1 57 $\frac{3}{4}$	— 1 60 $\frac{1}{4}$
Flour (per 280 lb.)—								
Canadian.....	12 21—12 59		12 21—12 59		12 21—12 59		12 21—12 59	
American.....	12 21—12 59		12 21—12 59		12 21—12 59		12 21—12 59	

LIVERPOOL.

(From "Broomhall's Corn Trade News", Liverpool.)

Description.	March 5.		March 12.		March 19.		March 26.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—								
Nor. Man. No. 1.....	2 38 $\frac{4}{5}$	—	2 38 $\frac{4}{5}$	—	2 38 $\frac{4}{5}$	—	2 38 $\frac{4}{5}$	—
Nor. Man. No. 4.....	2 20 $\frac{4}{5}$	—	2 20 $\frac{4}{5}$	—	2 20 $\frac{4}{5}$	—	2 20 $\frac{4}{5}$	—
No. 2 Hard Winter.....	2 33	—	2 33	—	2 34	—	2 34	—
No. 3 Red Winter.....	—	—	—	—	—	—	2 26 $\frac{1}{3}$	—
Oatmeal (per 240 lb.)—								
Canadian or American.....	16 79—17 03		16 79—17 03		16 79—17 03		16 79—17 03	
Canadian rolled oats.....	16 79—17 03		16 79—17 03		16 79—17 03		16 79—17 03	
Flour (per 280 lb.)—								
Manitoba.....	12 41—12 59		12 41—12 59		12 41—12 59		12 41—12 59	
Kansas.....	12 41—12 59		12 41—12 59		12 41—12 59		12 41—12 59	

NOTE.—In Tables I and IV the rate of currency conversion is \$4.86 $\frac{2}{3}$ to the £ sterling, and for grain, British measures have been converted into Canadian measures of legal weights (60 lb. wheat, 48 lb. barley, 34 lb. oats).

SCHEME OF CROP-REPORTING FOR 1918.

(Subject to revision.)

January.—Farm values, including values of farm land, wages of farm help and values of farm live stock.

March.—Farm products on hand and percentage of merchantable quality. Condition of live stock.

April.—Areas winter killed of fall wheat, hay and clover. Condition of the growing crops of fall wheat and of hay and clover. Progress of seeding operations (spring wheat, oats and barley). Dates of sowing and of appearance of wheat above ground.

May.—Preliminary estimate of areas sown to spring wheat, oats, barley, rye, peas, mixed grains, hay and clover, alfalfa and pastures. Condition of these crops and also of fall wheat. Dates of sowing and of appearance of wheat above ground.

June.—Revised estimate of areas sown to spring wheat, oats, barley, rye, peas, mixed grains, hay and clover, alfalfa and pastures. Condition of these crops and of fall wheat. Areas of late-sown cereals and hoed crops, including buckwheat, flax, corn for husking, beans, potatoes, turnips, sugar beets, mangolds, carrots, etc., and corn for fodder. Dates of sowing and of appearance above ground of wheat. Dates of heading, flowering and milk-stage of wheat.

July.—Preliminary estimate of the yield per acre of fall wheat, hay and clover and alfalfa. Condition of spring wheat, oats, barley, rye, peas, beans, buckwheat, mixed grains, flaxseed, corn for husking, potatoes, turnips, mangolds, carrots, etc., hay and clover, alfalfa, corn for fodder, sugar beets and pasture. Dates of heading, flowering, milk-stage and cutting of wheat.

August.—Estimate of the yield per acre of spring wheat, rye, oats, barley and flax. Estimate of areas sown to these cereals that from any cause will not produce a crop. Condition of spring wheat, oats, barley, rye, beans, buckwheat, mixed grains, flaxseed, corn for husking, potatoes, turnips, mangolds, carrots, etc., hay and clover, alfalfa, corn for fodder, sugar beets and pasture. Dates of heading, flowering, milk-stage and cutting of wheat. Stocks of wheat, oats, and barley in hand on August 31.

September.—Estimate of the yield per acre of fall wheat, spring wheat, oats, barley, rye, peas, beans, buckwheat, mixed grains, flaxseed and corn for husking. Quality of these crops when harvested. Condition of potatoes, turnips, mangolds, carrots, etc., sugar beets, corn for fodder and alfalfa. Date of cutting of wheat.

October.—Yield per acre, quality and average price of potatoes, sugar beets, turnips, corn for husking, other roots (mangolds, carrots, etc.), hay and clover, fodder corn and alfalfa. Acreage sown to fall wheat. Condition of fall wheat. Percentage of fall ploughing completed. Acreage summer-fallowed in percentage of previous year.

December.—Final estimates of yields per acre based upon reports of threshing results. Average market prices and weight per measured bushel of cereals.

PUBLICATIONS
OF THE
Department of Trade and Commerce

REPORT OF THE DEPUTY MINISTER.

WEEKLY BULLETIN

(Circulated within Canada only),

Containing Reports of Trade Commissioners and General Trade Information.

SUPPLEMENTS TO WEEKLY BULLETIN:

Trade of China and Japan.

Russian Trade.

Directory of Russian Importers.

The German War and its relation to Canadian Trade.

Handbook for Export to South America.

Commercial Intelligence Service.

Toy Making in Canada.

The Timber Import Trade of Australia.

EXPORT DIRECTORY OF CANADA.

CANADA AND THE BRITISH WEST INDIES.

CANADA, THE COUNTRY OF THE TWENTIETH CENTURY.

GRAIN INSPECTION IN CANADA.

LIST OF LICENSED ELEVATORS.

RULES AND REGULATIONS OF THE BOARD OF GRAIN
COMMISSIONERS.

REPORT OF THE BOARD OF GRAIN COMMISSIONERS.

MAIL SUBSIDIES AND STEAMSHIP SUBVENTIONS.

For List of Publications of the Census and Statistics Office, see page iv of cover.

DEPARTMENT OF TRADE AND COMMERCE.

PUBLICATIONS

OF THE

Census and Statistics Office.

ANNUAL REPORT OF THE TRADE OF CANADA.

MONTHLY REPORT OF THE TRADE OF CANADA.

THE CANADA YEAR BOOK, 1916-17, with Map of Canada and Newfoundland, a Statistical Summary of the Progress of Canada and numerous illustrations pp. 1-xvi, 1-720.

Contents: I Natural Resources of the Dominion of Canada, by WATSON GRIFFIN, Department of Trade and Commerce, Ottawa, with 10 illustrations; II Physical Characteristics of Canada, including Geographical Features; Economic Geology in Canada, 1917, by WYATT MALCOLM, Department of Mines, Ottawa; III Area and Population; IV Education; V Climate and Meteorology, with Diagram; VI Production; VII Trade and Commerce; VIII Transportation and Communications; IX Labour; X Finance; XI Administration; XII Legislation and Principal Events of the Years 1916 and 1917; XIII Extracts from the Canada Gazette 1916 and 1917.

THE CANADA YEAR BOOK. Second Series 1905-1915. (1910 and 1913, out of print.)

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. Nos. I to XIX.

REPORT OF THE FIFTH CENSUS OF CANADA, 1911.

Vol. I, 1912. Areas and Population by Provinces, Districts and Subdistricts with Introduction. Tables I to XV, pp. i-viii, 1-623. [Out of print.]

Vol. II, 1913. Religions, Origins, Birthplace, Citizenship, Literacy and Infirmities by Provinces, Districts and Subdistricts, with Introduction. Tables I-XLVI, pp. i-iv, 1-634.

Vol. III, 1913. Manufactures for 1910 as enumerated in June 1911, with Introduction. Tables I-XX, pp. i-xvi, 1-432.

Vol. IV, 1914. Agriculture with Introduction. Tables 1-90; I-XXXV, pp. i-xcv, 1-428. Diagrams, 5 pp. [Out of print.]

Vol. V, 1915. Forest, Fishery, Fur and Mineral Production, with Introduction. Tables 1-51; I-XXVI, pp. i-l, 1-171.

Vol. VI, 1916. Occupations of the People, with Introduction. Tables 1-25; I-VI, i-xxxi, 1-469. [Out of print.]

SPECIAL REPORT ON THE FOREIGN-BORN POPULATION. Abstracted from the Records of the Fifth Census of Canada. June, 1911. 23 tables. 62 pp. 1915.

REPORT OF THE POSTAL CENSUS OF MANUFACTURES, 1916. pp. i-xi; 1-263, 1917.

REPORT ON THE PRODUCTION OF CREAMERIES AND CHEESE FACTORIES, 1915 and 1916. pp. 1-24, 1917.

CRIMINAL STATISTICS. Annual Report for Year ended September 30, 1915. pp. i-xliv, 1-398.

CENSUS AND STATISTICS MONTHLY, Vols. 1-9, 1908-1916; Vol. 10, Nos. 101-103, 1917. MONTHLY BULLETIN OF AGRICULTURAL STATISTICS, Vols. 10 and 11, Nos. 104-115, 1917-18.

For List of other Publications of the Department of Trade and Commerce, see page iii of cover.

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VOL. 11

No. 117

DOMINION OF CANADA

DEPARTMENT OF TRADE AND COMMERCE

DOMINION BUREAU OF STATISTICS

Quarterly

(MONTHLY) BULLETIN

OF

AGRICULTURAL STATISTICS

May, 1918.

Published by Authority of the Right Hon. Sir George E. Foster
G.C.M.G., M.P., Minister of Trade and Commerce.



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Printer to the King's Most Excellent Majesty

1918

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MONTHLY BULLETIN OF AGRICULTURAL STATISTICS

Vol. 11

OTTAWA, MAY, 1918.

No 117

DOMINION STATISTICIAN: R. H. COATS, B.A., F.S.S.
EDITOR: ERNEST H. GODFREY, F.S.S. DOMINION BUREAU OF STATISTICS,
DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

FIELD CROPS OF CANADA.

Report for the month ended April 30, 1918.

This report relates to the area and condition of fall wheat, the condition of hay and clover meadows and the progress of spring seeding, as compiled from the reports of crop correspondents.

WINTER-KILLING AND CONDITION OF FALL WHEAT.

The winter-killing of fall wheat in Ontario is reported as especially severe. It is estimated to amount to 56 p.c., which reduces the acreage under this crop in Ontario from 630,200 acres, as sown last fall, to 277,200 acres, the area to be harvested. This is the largest proportion of fall wheat winter-killed in Ontario and the lowest acreage left for harvesting since the records were begun in 1909. In Alberta the percentage winter-killed is estimated at 10 p.c., thus reducing to 55,300 acres the area of 61,400 acres sown last fall. For the whole of Canada the area sown, viz., 699,100 acres, is reduced by 52 p.c. to 338,000 acres. The condition of fall wheat on April 30 is also the lowest on record, viz., 52 p.c. of the standard for Ontario and 59 p.c. for all the fall wheat provinces. Converted into a standard of 100 as representing the average condition on April 30 for the nine years 1909 to 1917, the condition of fall wheat for Canada on April 30, 1918, indicates a yield per acre of 71 p.c., or 29 p.c. below the average of the past nine years.

HAY AND CLOVER MEADOWS.

About 11 p.c. of the area under hay and clover is reported as winter-killed, as compared with 9 p.c. last year. The condition in percentage of the standard representing a full crop is 84 for all Canada, as compared with 86 last year. For the provinces the percentages are as follows: Maritime Provinces, 92-96; Quebec, 86; Ontario, 78; Manitoba, 70; Saskatchewan, Alberta and British Columbia, 90-93.

PROGRESS OF SPRING SEEDING.

With an early spring, excellent progress has been made with seeding. For spring wheat in Manitoba 94, in Saskatchewan 85, and in Alberta 92 p.c. of seeding was estimated to be completed by the end of April. These proportions are higher than in any recent year, excepting 1915, and compare most favourably with last year, when for the Prairie Provinces the proportions ranged only from 5 to 27 p.c. For the six provinces to which the report applies, viz.,

Quebec, Ontario, the Prairie Provinces and British Columbia, the proportion of spring wheat seeded by April 30 is 66 p.c., as compared with 13 p.c. last year, 27 p.c. in 1916 and 94 p.c. in 1915. Good progress has also been made with the seeding of oats and barley, the proportion for the six provinces being for oats 24 p.c., as against 12 p.c. in 1917 and 8 p.c. in 1916, and barley 20 p.c., as compared with 9 and 3 p.c. in 1917 for and 1916.

Census and Statistics Office,
Ottawa, May 14, 1918.

ERNEST H. GODFREY,
Editor.

I. Area Sown to Fall Wheat, 1917, and Areas Winter-Killed, as estimated on April 30, 1918.

Provinces.	Area sown, 1917.	Area Winter-Killed.		Area to be harvested.
	acres.	p.c.	acres.	acres.
Ontario.....	630,200	56	353,000	277,200
Manitoba.....	4,000	50	2,000	2,000
Alberta.....	61,400	10	6,100	55,300
British Columbia.....	3,500	—	—	3,500
Total.....	699,100	52	361,100	338,000

II. Comparative Statement of the Winter-Killing of Fall Wheat, 1909-18.

Provinces.	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Ontario.....	13	6	22	29	18	19	7	6	25	56
Alberta.....	—	22	5	39	44	16	6	5	15	10
Canada.....	—	—	21	32	26	18	7	5	24	52

III. Progress of Spring Seeding, 1911-18.

Crops and Provinces.	April 30, 1911	April 30, 1912	April 30, 1913	May 6, 1914	April 30, 1915	April 30, 1916	April 30, 1917	April 30, 1918
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Spring wheat—								
Quebec.....	24	3	12	5	55	2	1	10
Ontario.....	51	13	22	24	73	4	28	68
Manitoba.....	71	50	57	57	93	26	13	94
Saskatchewan.....	70	72	65	79	94	36	5	85
Alberta.....	81	61	74	88	91	80	27	92
British Columbia.....	—	—	—	—	89	66	20	66
Six provinces.....	59	39	43	48	94	27	13	66

III. Progress of Spring Seeding, 1917-18—Concluded.

Crops and Provinces.	April 30, 1911	April 30, 1912	April 30, 1913	May 6, 1914	April 30, 1915	April 30, 1916	April 30, 1917	April 30, 1918
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Oats—								
Quebec.....	19	4	11	4	38	1	1	6
Ontario.....	44	14	41	44	63	4	33	50
Manitoba.....	6	17	36	6	30	1	1	20
Saskatchewan.....	8	17	8	14	29	3	—	10
Alberta.....	34	30	25	39	50	24	3	28
British Columbia.....	—	—	—	—	73	56	11	54
Six provinces....	29	14	21	23	45	8	12	24
Barley—								
Quebec.....	17	2	7	4	45	$\frac{3}{2}$	1	4
Ontario.....	43	12	36	41	63	3	26	49
Manitoba.....	$\frac{1}{2}$	—	$\frac{1}{2}$	1	8	—	—	7
Saskatchewan.....	1	23	1	3	13	$\frac{1}{2}$	—	7
Alberta.....	13	26	11	17	28	6	1	15
British Columbia.....	—	—	—	—	67	23	6	31
Six provinces....	24	10	14	16	38	3	9	20
Total seeding—								
Quebec.....	21	5	12	6	41	2	1	7
Ontario.....	44	15	40	41	63	6	30	50
Manitoba.....	47	37	32	33	63	15	10	53
Saskatchewan.....	47	49	41	49	70	22	4	58
Alberta.....	67	52	43	51	67	46	16	61
British Columbia.....	—	—	—	—	77	58	24	63
Six provinces....	44	28	35	37	63	18	14	44

IV. Condition of Hay and Clover Meadows, 1911-18.

Provinces.	April 30, 1911	April 30, 1912	April 30, 1913	May 6, 1914	April 30, 1915	April 30, 1916	April 30, 1917	April 30, 1918
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Canada.....	89	75	90	87	91	92	86	84
Prince Edward Is- land.....	82	73	90	95	95	92	86	92
Nova Scotia.....	94	91	96	85	94	91	82	96
New Brunswick...	91	82	91	93	90	94	96	95
Quebec.....	94	50	86	84	90	90	94	86
Ontario.....	86	80	88	84	91	94	82	78
Manitoba.....	85	88	93	93	89	91	87	70
Saskatchewan.....	92	88	91	94	84	89	92	92
Alberta.....	94	96	94	93	94	95	94	90
British Columbia.....	93	98	96	96	96	94	88	93

V. Condition of Fall Wheat on April 30, 1911-18.

NOTE.—100=Standard or Full crop.

Provinces.	1911	1912	1913	1914	1915	1916	1917	1918
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Ontario.....	81	71	83	81	93	89	67	52
Manitoba.....	—	—	—	—	—	—	65	76
Alberta.....	89	77	76	87	83	78	88	93
British Columbia.....	—	—	—	—	—	—	85	90
Canada.....	82	73	82	83	91	88	69	59

REPORTS OF CROP CORRESPONDENTS.

Month ended April 30, 1918.

Prince Edward Island.—The snow was still lying in places, but as there was very little frost in the ground, the land was drying quickly. Work will begin about the second week in May. It is too early to report on hay and clover meadows, as growth has hardly started, but little winter killing is expected.

Nova Scotia.—There is still frost in the ground and snow in the woods. The ground is drying quickly and a little ploughing has been done, but work will not become general until about May 15. It is early to report on meadows; however, as they wintered well there is every prospect for good hay this year.

New Brunswick.—No spring work has been done on the land, except a little ploughing on high, dry places. The ground, however, is drying out, and seeding will begin early in May. Hay and clover have wintered well. Fertilizers are said to be scarce and dear.

Quebec.—No seeding has been done yet, except in certain localities between the 20th and 30th. A larger acreage is being prepared for grain crops.

Ontario.—In the northern and eastern parts of the province not much sowing was done till towards the end of the month, but good progress was made with the ploughing and general preparation of the land wherever dry enough. Elsewhere in the province a good deal of the grain seeding was done. The weather of the month was too cool for much growth. From all parts come reports of the destruction of fall wheat, 56 per cent being reported as killed outright and the remainder in very poor condition, patchy and weak. In many places the land is being re-seeded. Late sowing last fall is given as one reason for the failure. Everywhere big efforts are being made to increase production, but correspondents state that the farms are undermanned and some fear that good land may have to lie idle.

Manitoba.—The season has been an excellent one for getting in the seed, work commencing in some parts of the province in the last week of March. Wheat was almost all sown by the end of April. A serious drawback has been felt in the lack of moisture, as the snowfall of the winter was light and the usual spring rains have not fallen. From many districts come reports of drifting soil leaving the seed exposed, and it is thought that a good deal of re-seeding may be necessary. Sloughs are dry and creeks nearly so, and pastures and meadows are making but poor growth. Only a small percentage of oats and barley has been sown, as no advantage is said to be gained by sowing before May. Fall wheat and also fall rye, which is gaining in popularity, suffered severely from winter-killing.

Saskatchewan.—The season for work on the land opened three to four weeks earlier than last year, the first sowing being reported on March 20. By the end of April practically all the wheat was sown and the land made ready for oats and barley. Not much of the latter crops were being sown till May as they do not withstand the frost

well. There is a fair amount of moisture in the soil, but the weather during April proved too cold to allow of much growth. The sowing season being so long, a good increase in acreage is looked for. Fall rye is a crop which is growing in favour.

Alberta.—Spring opened early, enabling good progress to be made with farming operations. At the end of April, 92 per cent of the wheat was sown, but little oats or barley, which are said to make better growth when sown somewhat later. Frosty nights have retarded growth. Rain too is badly needed as wheat, especially on high lands, has not enough moisture for ready germination. Pastures and meadows too would benefit by rains. Fall wheat is reported to be winter-killed to the extent of 10 per cent.

British Columbia.—The snowfall of the winter was of unusual depth, with little frost in the ground beneath. Consequently, an abundance of moisture soaked into the ground, and the seedbed was in fine condition at the end of April, in spite of the slight rainfall of the month. A large proportion of the grain seeding was completed and the seedling of root crops had commenced. Fall wheat came through the winter well, and pastures were in good condition, stock showing good improvement since going on the grass.

CROP REPORTS OF PROVINCIAL GOVERNMENTS.

Ontario.—The Ontario Department of Agriculture reported (April 29) that about half of fall wheat was more or less injured since the crop entered the winter, chiefly by unfavourable fall and late winter weather. Clover has come through much better than the wheat, and although patchy in spots is recovering wonderfully. Grasses generally are now getting a favourable start.

The report of May 6 stated that favourable progress was being made with spring seeding, the work generally being much ahead of the average of this date. The land never worked better, the seedbed being almost perfect, and a good catch looked for. It is estimated that fully 40 per cent of the fall wheat land had been ploughed up or cultivated with barley or spring wheat. Clover, however, gave promise of being at least a fair crop taking the province over, although the reports from the counties extending from Prince Edward to Dundas are not so encouraging. The crop, as might be expected, has done best on well drained land. Owing to the lack of mill feeds, etc., dairy cattle will go on the grass with poorer lactation than is desired. The condensory at Chesterville has set the price of milk for summer delivery at \$2.50 a cwt. The increased price of cheese at the factories is fairly satisfactory to patrons. Dundas county also reports the installing of a number of milking machines to overcome the shortage of labour. Hay is still abundant, is being largely fed and is selling freely at from \$14 to \$18 a ton.

On May 13 it was reported that the sowing of spring grain was practically completed, and most of the fields are showing up encouragingly, as the catch of seed was remarkably good. Fall wheat has

picked up here and there with the recent rains, but the great bulk of the reports are to the effect that the crop is practically as great a failure as the province has yet known. Clover is doing well on the whole, although there are some patchy fields. The recent rains have suited the crop. Nearly all cattle are now on pasture, but the grass is not forward enough yet to give as good a bite as is desired, and the animals are not putting on much flesh, although in good general health. Beef cattle are selling at from 11 to 15 cents a pound. Dairy cows bring from \$120 to \$135. Hogs are commanding from \$19.50 to \$20.60 a cwt. Too many of them are being marketed unfinished on account of the shortage of the most suitable feeds.

On May 20 reports were practically unanimous regarding the excellent condition of spring grains. Sowing conditions were ideal, and the fields never looked better at date. A large acreage of potatoes, sugar beets and mangolds have already been put in. In Essex, corn planting is at its height, and preparations are being made for an extra large area. Early tomatoes are also being set out. Fall wheat will now do well if it averages 30 p.c. of an average yield per acre. While improvement is noted here and there owing to the remarkably favourable weather, other reports state that some farmers will get very little more than their seed back. Clover, on the other hand, is spoken of generally as a most promising crop, poor fields being the exception. Old meadows are not doing so well as new seeding. Orchards are showing a profusion of blossom, and should frosts and heavy rains keep off during the period of bloom, heavy fruit crops may be looked for.

Live stock are improving on pasture, as the grass has come along fast during the last week or two. Choice beef animals are bringing as high as 16 cents a lb., although some cattle sales are quoted as low as 12 cents. Milk production is now well up to the average for the season. The Lambton Creamery Co., Petrolia, is reported to be producing from six to ten tons of butter a week. Hogs are coming to market generally light at from \$19.50 to \$20.50 a cwt. Small pigs from four to six weeks old are in great demand at from \$12 to \$15 a pair. Sheep are steadily increasing in favour. Fodder supplies are holding out well generally, although owing to shortage some had to turn their stock too early upon pasture. There is plenty of hay and straw on hand, but grain is scarce with most farmers. Ensilage has been carefully husbanded and was never more appreciated. The favourable weather for operating on land has been a boon to farmers, and it has enabled many of them to overcome in large measure the great scarcity of experienced help.

Saskatchewan.—On April 29 the Saskatchewan Department of Agriculture telegraphed as follows: "Wheat 90 per cent completed in southeastern, east central and northeastern district; other districts 50 to 70 per cent finished; very little oats seeded yet; will be general this week. Weather has been cold and wet with severe frosts and snow in many places retarding operations." On May 14 the following further telegram was received: "Wheat seeding is completed; 40 per cent of oats seeding done. No lack of moisture except in parts

of west central district. Ten to fifteen per cent increase in spring ploughing. High winds reported but no damage to crop."

Telegrams of May 21 and 27 refer to the prevalence of frosts and snow. On May 27 90 p.c. of oats and 80 p.c. of barley seeding was completed. Snow and rain were reported from all parts of the province, except southwestern districts. The weather has been cold with heavy frosts at night. Warm weather was needed, but no serious damage was reported.

Alberta.—On May 18 the Alberta Department of Agriculture telegraphed as follows: "Reports reaching the Department from special agents located in various parts go to show that seeding operations have been carried on up to the present time under very favourable circumstances. Until the last few days it has been quite dry over all portions of the province and in many parts it had reached a point where the crop was likely to suffer. It is exceedingly fortunate that practically the whole province has been visited by rain and snow during the present week. Fairly heavy frosts have been reported over a wide area. The oat crop, however, is not above the ground and therefore will not suffer. Where these frosts were heavy the wheat has been frozen. However past years have proved that these frosts do not particularly affect the wheat crop. It may retard a few days, but has the good effect of making it stool out. The precipitation that has come since the frost will help the grain to revive quickly, provided we have reasonably warm weather. Practically all the wheat is now seeded and above 50 per cent of the oats and barley. A good deal of the land which has yet to be seeded has to be ploughed, and the moisture which is now falling will greatly improve conditions for ploughing. The crop area has been largely increased and will very greatly exceed any previous year's record. Farmers generally are entering heartily into the special campaign for greater production. It is much too early yet to make any prediction respecting the probable harvest, but prospects to date are exceptionally good considering the whole province over."

On May 25 the weekly telegraph reports received by the Department go to show that the seeding has been completed in some districts. Taking the province over about 30 p.c. still remains to be done, much of which will be for green feed. Frost has been general over the whole province for several nights during the week, but as far as can be determined at the present time no particular damage has been done. The greater portion of the province has been well served by moisture in the form of either rain or snow. This assisted materially in minimizing the effect of the frost, though a limited district is still in need of moisture. There has been very little growth for about two weeks or more. Warm weather is needed, and if such should come root development and moisture content of the soil are in such condition that very rapid progress would be made.

DATES OF SEEDING AND GERMINATION OF SPRING WHEAT, 1918.

Under the arrangements referred to in the March issue (page 81), Crop Correspondents were requested to record in their April schedule the date of the first general sowing of spring wheat and the date of its appearance above ground. In the following statement the replies received are tabulated to show (1) the total number of records of seeding; (2) the earliest dates when wheat seeding became general in Quebec, Ontario, the Prairie Provinces and British Columbia; (3) the total number of replies recording the first appearance of the crop above ground; (4) the number of replies recording that sowing was general for each of the four weeks of April; (5) the earliest date of the appearance of the crop above ground; (6) the number of replies recording the first appearance of the crop above ground for each of the four weeks of April and (7) the average number of days required for visible germination (i.e., days elapsed from sowing to appearance of the crop above ground). No records came from the Maritime Provinces, where April is too soon for general seeding.

Dates of Seeding and Appearance above Ground of Spring Wheat, 1918.

Province and District.	Dates of Seeding.						
	Total No. of réplies.	Earliest date when seeding is general.	Number of records that seeding was general.				
			April 1-7	April 8-14	April 15-21	April 22-30	
Quebec.....	78	April 15..	—	—	12	66	
Ontario East.....	19	" 16..	—	—	4	15	
" North.....	52	" 1..	2	6	13	31	
" Central.....	33	" 2..	1	6	25	1	
" South.....	27	March 27..	4	14	8	1	
" West.....	52	April 1..	7	7	26	12	
Manitoba North.....	59	March 28..	116	27	16	—	
" South.....	71	" 21..	230	34	7	—	
Saskatchewan North.....	119	" 30..	39	56	44	10	
" South.....	90	" 20..	45	42	5	8	
Alberta North.....	74	April 1..	6	31	33	4	
" South.....	41	March 27..	10	23	7	1	
British Columbia.....	17	April 6..	3	5	7	2	

¹Including 2 in last week of March. ²Including 5 in last week of March. ³Including 1 in last week of March. ⁴Including 4 in last week of March. ⁵Including 3 in last week of March.

The statement shows that in parts of southern Ontario, Manitoba, Saskatchewan and southern Alberta seeding was general as early as the last week in March. In Quebec, 12 records gave seeding as general during the third week of April, but in the large majority of cases, (66) the date was in the last week of April. For the rest of Canada the majority of the records reported seeding as general during the second and third weeks of April. The earliest dates for the appearance of the crop ranged from April 1 to 30; but the great majority reported for the two last weeks of the month. Finally the average number of days from seeding to appearance above ground ranged from 11 in British Columbia to 16 in Ontario and the Prairie Provinces.

Dates of Seeding and Appearance above Ground of Spring Wheat, 1918—Concluded.

Province and District.	Dates of appearance above ground.							Average No. of days from seeding to appearance above ground.
	Total No. of replies.	Earliest date of appearance above ground.	Number of records of appearance above ground					
			April 1-7	April 8-14	April 15-21	April 22-30		
Quebec.....	1	April 30....	—	—	—	1	15	
Ontario East.....	1	" 30....	—	—	—	1	—	
" North.....	10	" 20....	—	—	3	7	13	
" Central.....	16	" 18....	—	—	3	13	13	
" South.....	14	" 13....	—	1	2	11	16	
" West.....	8	" 20....	—	—	1	7	15	
Manitoba North.....	32	" 15....	—	—	10	22	16	
" South.....	49	" 1....	1	4	21	23	15	
Saskatchewan North.....	62	" 12....	—	1	9	52	14	
" South.....	48	" 5....	2	1	15	30	16	
Alberta North.....	41	" 15....	—	—	6	35	14	
" South.....	30	" 12....	—	1	12	17	15	
British Columbia.....	13	" 16....	—	—	5	8	11	

DOMINION EXPERIMENTAL FARMS AND STATIONS.

Central Farm, Ottawa.—For the most part, April has been cool and dry, but there have been brief mild spells at the middle and near the end of the month, with the thermometer reaching above 70. The highest temperature recorded is 75, the lowest 17.4 and the mean 42.91; while a year ago the highest was 66, the lowest 16, and the mean 39.39. The precipitation aggregates 1.41 inch, made up of 1.11 inch of rain and 3 inches of snow; while for the preceding April the amount was 2.78 inches, consisting of 2.38 inches of rain and 4 inches of snow. The bright sunshine figures out 8.13 hours a day, being the most since 1911; while the daily average for this time last year was 5.97 hours.

The cool, dry weather prevailing since the snow left has facilitated seeding operations, which are probably from a week to ten days earlier than usual. Sowing at the Experimental Farm started on the 15th with a field of oats and another of oats and peas. At the end of the month, nearly all of some eighty acres of land assigned to field crops of grain, have been seeded, and the sowing has been done under very favourable conditions.

Charlottetown, P.E.I.—J. A. Clark, Superintendent, reports:—"The first two weeks of April were fine, with considerable bright sunshine. Temperatures were moderate, and although the prevailing wind was northeast, the snow went very rapidly. There was little or no frost in the ground under the snow, and as soon as the grass was uncovered, it showed green. Rain occurred on five different days from the 22nd to the 30th, the total precipitation for the month being less than one inch. The live stock came through the winter in good shape. The clover on the meadows is promising. The land

has dried up very rapidly, and the spring promises to be an early one. Wheat was sown on the 20th, and a few early potatoes were planted. No other work of cropping has been reported from the neighbourhood. The mangold stecklings have wintered in excellent condition, and the planting of these is to commence at once."

Kentville, N.S.—W. S. Blair, Superintendent, reports: "The temperatures recorded during April have ranged about normal, the mean being 38.72, compared with an average of 39.25 for this time during the previous five years. The rainfall totals only 0.89 of an inch, while the average for April of the four previous years was 2.9 inches. The bright sunshine aggregates 203.7 hours, while the average during the four previous years was only 137.7 hours. The spring being dry, some land was fit to work on the 23rd; while it has been possible to plant turnips for seed to the end of the month."

Nappan, N.S.—W. W. Baird, Superintendent, reports:—"The weather during April has been somewhat changeable. The opening days were very fine and springlike until the 5th, when quite a fall of snow was recorded. During this period considerable snow disappeared. The weather continued cool, with sharp frosts at night. A light snow flurry was recorded on the 16th. During the last week, it has been somewhat warmer and much more springlike. With the warm spell at the first of the month, the frost started to come out of the stecklings and they had to be picked over, the percentage spoilt being considerable. Men from the internment camp were engaged for a few days in picking over these stecklings. The beef steers have made excellent gains during the month; they are an excellent bunch of finished stuff, but the market for good beef steers has been disappointingly poor.

Fredericton, N.B.—W. W. Hubbard, Superintendent, reports:—"April brought warm days and frosty nights. The snow has wasted away gradually and, there being little frost in the ground, the soil has largely absorbed the snow-water. With 192 hours of sunshine, the 43-year average of sunshine was exceeded by 5 hours. The mean temperature, 39.7, is approximately the same as the average for the month. The daily thawing and nightly freezing of the ground has been pretty hard on meadows and any winter grain crop left in the ground. In some dry locations cultivation was begun during the last ten days of the month. At the Experimental Station, ploughing and disking began on the 29th. Live stock has come through the winter fairly well, after consuming an unusually large quantity of hay."

Ste Anne de la Pocatière, Que.—Jos. Begin, Superintendent, reports:—"April has been fine and cool but with no extreme temperatures, the highest reading of the thermometer being 65.2, the lowest 24.2, and the mean temperature 38.2, compared with extremes of 53.7 and 12.6, and a mean of 34.1 a year ago. The precipitation amounts to only 1.25 inch, consisting of the rainfall of three different days during the last week of the month. The bright sunshine recorded averages 7.88 hours a day, as against 4.61 hours for April, 1917. The last of the snow went slowly during the first ten days of the month, without leaving any ice on the ground; the absence of hard

frost during the remainder of the month left the meadows in good shape. Although the weather has been bright and dry, the frost has gone from the ground very slowly; there is no sign of growth, even on poplars, up to the last of the month. At the Station, two acres of dry sandy loam were ploughed and harrowed on the 12th, and planted to roots for seed on the 13th; and the first wheat sowing of the season was done on the 26th on well drained land assigned to rotation plots. Except on such drained or exposed dry land, it is not likely that any seeding will be possible for some time yet, for the ground is cold and wet. However, farmers are getting implements and tools ready for their spring work."

Cap Rouge, Que.—G. A. Langelier, Superintendent, reports:—"Compared with the average for the last six years, April has been colder, drier and brighter than usual, the figures being as follows:—For 1918, mean temperature 52.48, precipitation 1.92 inch, and sunshine 220.3 hours; whilst for the past four years they averaged 56.07 for mean temperature, 3.02 inches for precipitation and 143.6 hours for sunshine. Nothing has been done on the land during the month, as, owing to the unusually cold weather, the snow went away very slowly. At the Station, the care of live stock and poultry has been the main work. The implements and summer vehicles have been put in shape, seeds tested for vitality, hot-beds started, and grain prepared for variety tests, whilst a great deal has been done to the roads. Over one thousand Barred Rock chicks were hatched and are doing well. An interesting experiment, just concluded, which lasted during the winter months for five years, shows that, with butter at 28 cents per pound, meal at 1½ cents, hay at \$7, silage and roots at \$2 per ton, dairy cows gave more profit when they received one pound of meal per 2.18 lb. of milk than when they received one pound of meal to 4 or 8 lb. of milk."

Lennoxville, Que.—J. A. McClary, Superintendent, reports:—"The weather throughout April has been fair and cool, with very little precipitation, and vegetation has made a slow start. The temperatures range a little higher than usual, the highest being 74, the lowest 15, and the mean 39.93, compared with extremes of 63 and 13, and a mean of 37.96 a year ago. The precipitation totals 1.21 inch, compared with 1.24 inch last year and 2.34 inches two years ago. The total sunshine amounts to 195.5 hours, while last April it was 106.7 hours. The ice cleared out of the St. Francis river on April 2. At the Station, ploughing commenced on the 15th, and seeding started on the 30th. There is every appearance of the young clover coming through the winter very well. Farmers in this district are very short of experienced labour to keep up the production of their farms, but it is expected, that with the use of more horses and larger implements, there will be an average acreage put in."

Brandon, Man.—W. C. McKillican, Superintendent, reports:—"The temperature during April has been about normal, the mean being 41.5, which is higher than in 1917 or 1916, but lower than in 1915. There has been very little precipitation during the month and practically every day has been suitable for farm work. The outstanding

characteristic of the weather, especially during the latter part of the month, has been high winds. There has been a good deal of soil-blowing throughout the country and in some places seed, too, has been blown out. Wheat seeding is almost completed throughout Manitoba, and some oats have been sown. On the Experimental Farm, wheat seeding is finished and oats about half finished. First sown wheat and rye are up and looking well; there has been no wind damage. A good crop of young lambs and pigs has been born during the month."

Indian Head, Sask.—W. H. Gibson, Superintendent, reports:—"April has been favourable for seeding and for farm work in general. In this district, at least 90 per cent of the wheat has been sown, and barley and oat land has been got in good condition for seeding early in May. High winds and exceptionally heavy frosts have kept the wheat back to some extent, but, up to the present, the damage in this locality has been slight.

Rosthern Sask.—Wm. A. Munro, Superintendent, reports:—"Work on the land started on April 11 and seeding was begun on April 23. Last year seeding was commenced on May 4. During the week beginning on the 14th, over an inch and a half of rain fell, which left the land in splendid condition. The steers purchased last November for experimental feeding were sold on the 16th to the highest bidder. Those bought as two-and-a-half years old, at $7\frac{3}{4}$ cents, sold for \$11.25 weighed at the corral, and those bought as three-and-a-half years old sold for \$11.75 weighed at the corral. Their feed consisted of barley straw and oat and barley chop, with hay during the last six weeks of the feeding period. Even considering the present high prices of feed, the sale shows considerable profit. Some difficulty has been experienced in securing efficient help, both at the Experimental Station and on the farms throughout the district, but this handicap so far has not been so serious as it at first promised to be."

Scott, Sask.—M. J. Tinline, Acting Superintendent, reports:—"Unusually fine weather has prevailed during April, and, as a result, seeding operations have progressed rapidly, and wheat sowing, which commenced on the 10th, is now practically all completed. Grain on early sown fields is sprouting, and close cropped pastures are showing green. A carload of feeder steers used in the tie feeding experiment sold at a profit over the cost of feed of \$17.61 per steer."

Lacombe, Alberta.—G. H. Hutton, Superintendent, reports:—"The weather during April has been favourable for spring work. Seeding operations were begun on April 13, practically three weeks earlier than last year. The soil is working up in excellent condition, and the supply of moisture is ample for the germination of seed in all cases where proper precautions have been taken to conserve the moisture present last fall and early this spring. As a result of the early commencement of operations, the area sown to wheat in this section is from ten to fifteen per cent greater than last year, while the earlier sown areas, being already above ground, have a much better start than in 1917. The total area seeded to cereals will probably exceed that of 1917 by ten per cent."

Lethbridge, Alberta.—W. H. Fairfield, Superintendent, reports: "The weather during April has been dry and windy. The precipitation amounts to only 0·13 of an inch. In the district, work became general on the land about the 10th, and, thanks to the large amount of land prepared last fall, seeding is well advanced at the end of the month. Fully 95 per cent if not more of the wheat sowing has been completed by the 30th. In most parts of southern Alberta, rain is badly needed. There will be a good increase in the total acreage in crop, on account of the large amount of breaking done last summer and the large amount which is being done this spring. The greatest increase in any one crop will be flax. Seeding at this Station is well advanced."

Invermere, B.C.—G. E. Parham, Superintendent, reports:—"The weather during April has been exceptionally favourable for spring work, for, although the night temperatures have been low, a generous allowance of sunshine, averaging 8·5 hours a day throughout the month, together with abundance of moisture in the soil, has rendered conditions ideal for seeding. Though the total precipitation for March and April amounts to barely three-quarters of an inch, farmers who have been able to cultivate their land have secured the benefit of the moisture from the unusually heavy winter snows, which, through the absence of frost, had all soaked into the soil. At the Experimental Station, good progress has been made with spring work. All the earlier vegetable seeds in the varietal and cultural test plots had been sown by the 20th, and a number of plots were laid out and sown for vegetable seed production. Seeding on some of the rotation plots has been completed by the 30th."

Summerland, B.C.—R. H. Helmer, Superintendent, reports:—"There has been practically no precipitation recorded during April, and the winds experienced during this and the preceding month have dried up the land very much. Frost has been recorded during the latter part of the month, but no damage has been done to apricots or peaches, except in a few low-lying spots with poor air drainage. Apricots and peaches show good crops and prices are ruling high for No. 1 stock. To the south of here, bush fires are raging in the province, and the smoke is as bad as in midsummer. Irrigation started towards the end of the month and was needed for hay crops. The range has turned green, but, without rain, will soon burn up. Seeding has been general throughout the district."

Agassiz, B.C.—W. H. Hicks, in charge, reports:—"The precipitation during April totals only 1·38 inch, which is the least recorded for that month since the rain gauge was installed here in 1892. The bright sunshine aggregates 202·4 hours, which is the most for any April since 1895. Frost has been recorded four times during the month. Weather conditions have been ideal for putting the land into shape and getting the seed sown. At the close of the month, the pastures and meadows are quite green, and a large percentage of spring sown cereals is making an appearance above ground. Live stock has wintered well and the animals are going to pasture in fair condition. Very high prices are being offered for all classes of live stock and products of the same."

Sidney, Vancouver Island, B.C.—Lionel Stevenson, Superintendent, reports:—"Conditions during April have been very favourable for soil preparation and seeding. The excess of sunshine and dearth of rain were in marked contrast with the weather in April, 1917. The greater portion of the spring seeding is completed at the close of the month and at this date soils and autumn sown crops are showing the effects of drought. The acreage devoted to cereals and vegetables is greater than for some years past. The prospect for small fruit and orchard fruit crops is good. The live stock of the district is in good condition. Sheep are increasing in numbers, while dairy cattle are decreasing owing to labour conditions. Pasturage has been good during the month. Red clover, orchard grass, tall oat grass and alfalfa have all made splendid growth. At the Experimental Station, autumn-sown barley had headed, and early varieties of autumn-sown peas are in bloom at the close of the month. Temporary pasture mixtures of oats, peas, rye and vetches, autumn sown, were ready to graze April 30. The poultry in the district seems to be in good condition and to be producing well. The demand for eggs and day-old chicks has not been very brisk. At the Experimental Station, the flowering bulb areas and shrubberies have looked very attractive, while the trees of the orchard areas were in bloom and conditions for cross breeding favourable. The cross-bred grains in the cereal-breeding area wintered well and have made splendid growth during the month."

Meteorological Record for April, 1918.

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of April are given in the following table:—

Experimental Farm or Station at—	Degrees of Temperature, F.			Precipitation in inches.	Hours of Sunshine.	
	High-est.	Low-est.	Mean.		Possible.	Actual.
Ottawa, Ont.....	75.0	17.40	42.91	1.41	406	244.0
Charlottetown, P.E.I.....	62.0	12.00	35.50	0.89	408	183.0
Kentville, N.S.....	66.0	16.00	38.72	0.89	405	203.7
Nappan, N.S.....	67.0	14.00	36.98	1.07	407	176.5
Fredericton, N.B.....	69.5	18.00	39.70	2.44	407	192.1
Ste. Anne de la Pocatière, Que.....	65.2	24.20	38.20	1.25	409	236.6
Cap Rouge, Que.....	68.0	14.20	52.48	1.92	409	220.3
Lennoxville, Que.....	74.0	15.00	39.93	1.21	406	195.5
Brandon, Man.....	74.0	12.00	41.50	0.67	414	195.0
Indian Head, Sask.....	75.0	10.00	39.87	1.56	416	176.3
Rosthern, Sask.....	73.1	10.20	41.12	1.65	419	235.5
Scott, Sask.....	75.0	3.20	41.20	0.80	418	241.3
Lacombe, Alberta.....	71.8	3.90	41.19	4.60	420	245.1
Lethbridge, Alberta.....	77.0	6.00	41.90	0.13	413	259.5
Invermere, B.C.....	72.0	13.00	41.80	0.39	415	261.9
Summerland, B.C.....	81.0	25.00	48.48	0.08	414	250.1
Agassiz, B.C.....	78.0	29.00	49.58	1.38	413	202.4
Sidney, Vancouver I., B.C.....	69.0	31.00	47.50	0.21	411	255.7

Ottawa, May 16, 1918.

J. H. GRISDALE,
Director Experimental Farms.

CROP REPORTS FROM OTHER COUNTRIES.

England and Wales.—The Board of Agriculture reported (April 1) that wheat was generally very satisfactory, being strong and healthy, and quite promising, although here and there the plant is occasionally thin, and a certain number of reports refer to damage by wireworm on newly-ploughed grass land. Other autumn-sown crops are also quite satisfactory. Cultivation of the land for the spring crops proceeded without interruption, the land working well, and much of the spring grain has now been sown under very favourable conditions. The early sown crops have germinated satisfactorily. In the chief potato districts of the fens and Lancashire, planting of this crop is in full swing. Elsewhere some early potatoes only have been got in, and generally speaking, the land is being rapidly prepared, but only a beginning has been made with the main crop. Work generally is very well forward for the time of year. Lambing has been general all over the country. The condition of the ewes is nearly everywhere described as only fairly good, owing to the shortage of artificial food; but the fall of lambs is everywhere satisfactory and often good. The lambs themselves are reported as strong, and with the unusually favourable weather there has been little mortality among ewes or lambs. The supply of labour, especially skilled kinds, is still short, but with the assistance of soldiers, women and German prisoners in many places, and with the very favourable weather allowing work to be continued throughout the month without a break, the situation has been much relieved, and as mentioned above, work is well forward. In most parts of the country there was a general rise in wages at Lady-day.

The report of May 1 states that spring sowing of grain has been practically completed under favourable conditions. Autumn wheat looks well and promising, though, owing to the cold weather, it has made but slow progress, and is in some places a little discoloured. Winter oats and beans are also quite satisfactory generally. The spring-sown crops are mostly coming up nicely, though oats are not in all cases so satisfactory, they, as well as the spring wheat have been to some extent damaged by wireworm, which has been rather troublesome on newly-ploughed land. Warmer weather is needed to bring all the crops on, and in some districts rain is also required. Potato planting has been nearly completed in the fen districts; but a large area remains to be sown in Lancashire. Elsewhere the work is generally in full swing. Except in the latest districts, lambing is practically over. The fall of lambs has been everywhere quite up to the average, and in many places over; while mortality, both among ewes and lambs, has been low; so that the season may be described as a good one. The more skilled forms of labour are still very scarce, but with the assistance of soldiers, women and prisoners of war, work is well advanced.

United States.—The Crop-Reporting Board of the U.S. Department of Agriculture reported (May 8) that on May 1 the area of winter wheat to be harvested was about 36,392,000 acres, or 5,778,000 acres (13.7 per cent) less than the acreage planted last autumn and 8,962,000 acres (32.7 per cent) more than the acreage harvested last year, viz., 27,430,000 acres. The ten-year average per cent of abandonment of planted acreage is 10.9. The average condition of winter wheat on May 1 was 86.4, compared with 78.6 on April 1, 73.2 on May 1, 1917, and 85.7, the average for the past ten years on May 1. A condition of 86.4 per cent on May 1 is indicative of a yield per acre of approximately 15.7 bushels, assuming average variations to prevail thereafter. On the estimated area to be harvested, 15.7 bushels per acre would produce 572,539,000 bushels, or 36.9 per cent more than in 1917, 19.1 per cent more than in 1916, and 15.0 per cent less than in 1915. The out-turn of the crop will probably be above or below the figures given above according as the change in conditions from May 1 to harvest is above or below the average change. The average condition of rye on May 1 was 85.8, compared with 85.8 on April 1, 88.8 on May 1, 1917, and 90.2, the average for the past ten years on May 1. The condition on May 1 forecasts a production of about 82,629,000 bushels, compared with 60,145,000, last year's final estimate, and 48,862,000, the 1916 final estimate. The average condition of meadow (hay) lands on May 1 was 89.6, compared with 88.7 on May 1, 1917, and a ten-year average on May 1 of 88.5. The expected hay acreage in 1918 is about 69,531,000 acres (53,605,000 tame and 15,926,000 wild). The May 1 production forecast is 107,550,000 tons, compared with an estimated production of 94,930,000 tons in 1917, and 110,992,000 in 1916. Stocks of hay on farms May 1 are estimated as 11,096,000 tons (11.7 per cent of crop), against 12,659,000 tons (11.4 per cent on May 1, 1917, and 12,212,000 tons (12.8 per cent), the five-year average on May 1. The average condition of pastures on May 1 was 83.1, compared with 81.9 on May 1, 1917, and a ten-year average on May 1 of 85.5. Of spring ploughing 77.5 per cent was completed up to May 1, compared with 72.4 per cent on May 1, 1917, and a ten-year average on May 1 of 69.4. Of spring planting 60.8 per cent was completed up to May 1, compared with 58.7 per cent on May 1, 1917, and a ten-year average on May 1 of 57.5.

INTERNATIONAL INSTITUTE OF AGRICULTURE.

WORLD'S CROPS OF 1917-18.

The following is a cabled summary of the statistical notes issued on May 10, 1918, by the International Institute of Agriculture. It includes all information up to April 30, 1918.

The total production of wheat in Denmark, Spain, France, Great Britain and Ireland, Italy, Luxemburg, Norway, Netherlands, Sweden, Switzerland, Canada, United States, India, Japan, Algeria,

Egypt, Tunis, Argentina, Uruguay, Union of South Africa, Australia and New Zealand in 1917 was 2,242,477,000 bushels, compared with 2,173,162,000 in 1916, and 2,479,519,000, the average of the three years 1914-16. The probable consumption of wheat in the same countries during the grain year August 1, 1917, to July 31, 1918, is estimated at 2,157,682,000 bushels.

The total production of rye in Denmark, Spain, France, Ireland, Italy, Luxemburg, Norway, Netherlands, Sweden, Switzerland, Canada and the United States in 1917 was 158,010,000 bushels, compared with 167,778,000 in 1916 and with a three-years' average of 172,276,000. The consumption of rye in 1917-1918 is estimated at 146,010,000 bushels.

The total production of barley in the same countries as for wheat, less India, Argentina, Uruguay and South Africa, in 1917, was 634,-853,000 bushels, compared with 611,669,000 in 1916 and a three year's average of 626,981,000. The consumption of barley in 1917-18 in the same countries as for production is estimated at 593,824,000 bushels.

The total production of oats in the same countries as for wheat, less India, Egypt, Uruguay, South Africa and Australia, in 1917, was 2,663,112,000 bushels, compared with 2,335,442,000 in 1916 and a three-years' average of 2,408,611,000. The consumption of oats in 1917-18 in the same countries as for production is estimated at 2,257,457,000 bushels.

The production of corn in Spain, France, Italy, Switzerland, Canada, United States, Japan, South Africa and New Zealand in 1917 was 3,334,556,000 bushels, compared with 2,739,570,000 in 1916 and a three-years' average of 2,943,866,000. The consumption of corn in 1917-18 in these countries is estimated at 2,856,684,000 bushels.

The surplus shown above in the case of wheat is due to the large crops in Argentina, Australia and India. On account of the great distance of these countries from the centres of consumption and the difficulties of transportation it is still indispensable that production should be intensified and consumption restricted in the countries of the northern hemisphere.

WINTER CEREALS IN NORTHERN HEMISPHERE.

The April issue of the Monthly Bulletin of Agricultural and Commercial Statistics repeats the information given in the March number respecting the areas sown to winter cereals, with however revised figures for Spain. In this country for 1917-18 winter wheat is now reported as covering 9,937,000 acres, or 2 per cent less than in 1916-17, rye 1,976,000 acres, or 8.1 per cent more, barley 4,143,000 acres, or 7.9 per cent more and oats 1,434,000 acres, or 22.7 per cent more.

CONDITION OF CROPS IN NORTHERN HEMISPHERE.

Spain.—The rainfall has been limited. Frosts have done no harm, and the area that required re-sowing is trifling.

France.—March has been, generally speaking, fine and dry, although at the beginning some snowfalls were reported in many districts. This weather has been as a whole favourable to the growing crops and for spring sowings.

Scotland.—The weather during March has been extremely favourable for agricultural work.

Ireland.—The weather during March was dry and fine, but rather cold, and plant growth was limited in consequence. On one or two nights there were slight frosts. Windy, dry and cold weather continues, and rain with warmth is badly needed. Preparatory work for spring sowing is well advanced, having made very good progress during March. Sowing of wheat was nearly completed, under excellent conditions, by April 1.

Italy.—During March the weather was changeable, but on the whole was favourable for agricultural work and for sowing.

Switzerland.—The late sown winter wheat has developed satisfactorily. Rye is doing very well; its condition is excellent.

Morocco.—Preparatory work for spring sowing is carried on in good conditions, and it may be expected that the area sown will turn out to be larger than that of last season.

CROPS IN SOUTHERN HEMISPHERE

The following is a statement of the areas and yields of field crops in countries of the southern hemisphere, for the year 1917-18, as compared with 1916-17:

Areas and Yields of Cereal Crops in Countries of the Southern Hemisphere, 1916-17 and 1917-18.

Crops and Countries.	1916-17.	1917-18.	Per cent of 1916-17.	Per cent of five year average.	1916-17.	1917-18.	Per cent of 1916-17.	Per cent of five year average.	1916-17.	1917-18.
	000 acres.	000 acres.	p.c.	p.c.	000 bush.	000 bush.	p.c.	p.c.	Bush. per acre.	Bush. per acre.
Wheat. —										
Argentina.....	16,089	17,876	111.1	108.6	70,225	218,600	311.3	135.8	4.31	12.19
Uruguay.....	780	1,014	130.0	119.0	5,390	12,860	238.6	191.6	6.84	12.64
Union of South Africa.....	755	925	122.5	125.4	4,790	8,833	184.4	135.5	6.39	9.52
Australia.....	11,580	9,857	85.5	106.7	152,088	122,584	80.6	130.0	13.23	12.49
New Zealand...	219	294	134.2	134.7	5,037	6,274	124.6	98.0	23.05	21.41
Totals and averages.....	29,373	29,966	102.0	109.0	237,530	369,151	155.4	134.3	8.09	12.32
Barley —										
New Zealand..	30	31	104.8	103.5	769	833	108.4	76.1	26.02	26.95
Oats —										
Argentina.....	2,525	3,200	126.7	114.2	29,912	74,568	249.3	123.5	11.81	23.35
New Zealand..	564	484	85.9	146.5	6,275	6,157	98.1	40.0	11.02	12.60
Totals and averages.....	3,089	3,684	119.3	117.6	36,187	80,725	223.1	106.5	11.71	21.91
Corn —										
New Zealand..	6	8	124.6	129.7	283	425	150.1	146.3	44.13	53.21

South Africa.—The weather is unfavourable. The condition of the maize crop on April 1, 1918, expressed according to the Institute system, was equivalent to 78 against 78 on March 1, 1918, and 101 on April 1, 1917.

CANADA'S OPPORTUNITY FOR EXPORTS OF FOOD.

By R. J. McFALL, Ph. D., Chief of Internal Trade Division, Dominion Bureau of Statistics, Ottawa.

Canada's opportunity for export at present is to supply food for the Allies. We are the nearest agricultural country to Europe, our distance being less even than that of the United States, while the countries of the southern hemisphere average about three times our distance; and distance is a vital consideration in these days of inadequate shipping facilities. We have enormous possibilities for producing food, abundance of fertile soil and a climate that is suited to producing the foods needed for a warring population. We have not the density of population essential for a great manufacturing country, but we have a bountiful supply of the natural opportunities needed to make us a great producer of foods.

DEMAND FOR STAPLE FOODS.

Our share in the great struggle makes the opportunity and the duty for us to produce and ship every possible ton of food, no matter whether or not there be personal gain in it for the farmers and shippers. There is the greatest possible profit in it even if we should give away the food to our Allies; there is the greatest loss we can possibly suffer if immediate private gain, or other consideration, caused us to produce less than we might for our Allies who are confronted with famine.

Fortunately, there is every likelihood of personal profit for those who help to increase the food supplies, and there is certainty of great national profit resulting from an increased food exportation programme. We are heaping up a great national war debt to other countries. International debts are paid in goods, and food is the most profitable form of goods with which we can pay. Furthermore, let us be quick about it if we wish to be shrewd. A bushel of wheat or a pound of pork will pay off twice as much war debt to-day as the same quantity a few years after the war when prices have fallen by one-half.

Honour, business shrewdness and self-preservation demand our greatest possible production of food-stuffs during the war. Motives of personal gain and national prosperity call for a programme of increased production for export of such commodities as will prove most profitable in our foreign market for years to come. Fortunately, as we shall presently show, the lines of great profit for the reconstruction period after the war are the same as those demanded for the war, namely, production of food-stuffs.

The Allies need all kinds of staple food-stuffs; they have given up luxuries; they want essentials. The food which they are calling for

are the kinds that Canada is best prepared to supply: the staple crops and animal products of the temperate zone.

Of cereals they most need wheat, for wheat is the most readily prepared for human consumption by the machinery and methods which they have ready at hand, and wheat is the most valuable bread-stuff possible to procure in quantity. Wheat is the most efficient means at man's disposal for turning the fertility of the soil into human food. Canada is, moreover, the foremost nation in the world in raising wheat for export, with the possible exceptions of Russia and India. Nature has given us the facilities for raising all the wheat the Allies need if man could do his part. What we should do is to devote every possible energy which can readily be used for this purpose into raising wheat. We can sacrifice our luxuries easily if the energy required in producing them can increase our wheat.

It may be asked, Why should we not devote all our energies to raising wheat? It certainly would not be advantageous for us to feed out our good wheat even to produce bacon for the Allies. Why then devote effort to raising pork and beef or potatoes that could be used to help produce wheat? Part of the answer is clear, the rest none the less certain.

There are areas not suited to wheat raising; continually raising wheat on the same ground is frequently a policy unproductive of the best results; there are times of the year when the wheat does not require our attention; there are many possibilities for raising other food which would be far less advantageously employed if wheat raising were our only opportunity. In short, some of our energies will be much more productive of results if spent on other products.

Then again, the fighting forces need a portion of this food in a more concentrated form than cereals. They need fats and they need meat. It may not be economical for them to turn any commodity already in Europe that is suitable for human consumption into feed for animals in order to have the animal products, for this process may turn out less food value than what was consumed. It is on the other hand profitable for us to feed animals. The reason for this, in addition to the above mentioned necessity for the concentrated food of animal products, is the lack of transportation facilities for bulky foods. The Europeans may not be able to afford to feed to animals any food which is already there and available for human consumption. We can raise the animal products for them and these concentrated forms of food will make smaller demands upon the limited shipping facilities than will cereals. Furthermore, we can produce animal products from rough fodder and forage, from waste products, from the many feed-stuffs which are not suitable for human food. The more such products we can make into meat and other animal products the nearer shall we be to victory.

The most economical animal for converting feed into food for the Allies is the hog. The cow is the nearest competitor, but her most efficient product, which is milk, is not readily available for shipment overseas. However, valuable as the hog is, making 15.6 lb. of edible solids while the steer only makes 2.8 lb., yet it is only certain kinds of feed which the hog can readily use. Grass and hay are the

raw materials for beef, not pork. Since Canada has extensive areas best suited to grazing or raising forage and areas beyond our present ability to bring under the plough, there is a great opportunity to produce beef for the Allies with natural products and human energy that would otherwise be relatively unproductive.

Sheep are slightly more efficient producers of food from feed than are steers under ideal conditions. Since one produces wool and the other leather as a by-product, both of which are vitally necessary at present, and since both are efficient means of converting forage into human food, we must bend every possible energy to the conversion of such forage into a means of victory.

The hog possesses the advantage of rapid multiplication better than any other form of live stock except poultry, and this gives it a great advantage in an urgent programme of increased production. Garbage or other waste products or surplus potatoes are suitable for hog feed; the hog is the most efficient means of utilizing such products. Where damaged or low grade grain is available it should also be used for making pork, unless it is needed to round off a plentiful forage ration for cattle. The hog and the dairy cow take first place if concentrated feeds are available; steers and lambs can be raised largely on forage. Where the stock and the facilities for handling poultry already exist, our common barnyard hen is an excellent business proposition in our campaign. She utilizes almost any kind of food, multiplies rapidly, and produces two forms of highly nutritious food.

ARGUMENTS DRAWN FROM TRADE RECORDS.

The accompanying charts are the best proof possible that a campaign of greater food production is an exceedingly profitable programme for Canada to adopt now and to follow out after the war. Two facts stand out most prominently therefrom. Farm products are relatively the most profitable commodities which we can export, for their value in the British market during the normal years of this century rose twice as fast as the average price of a general list of commodities shown by the index number of the London Statist. And there is no danger at any time in the near future of Canada glutting the British market for animal products. At present we take a ridiculously small place on that market for most of these goods, while immediately before the war our surplus of the most important animal products was practically nil, and in the case of other important ones we were actually using more than we produced ourselves. We need have no fear of an over-production in Canada that will have such an effect upon the world market as to bring prices down to an unprofitable level. We can do our utmost to relieve hunger without fear of loss to ourselves.

The charts are based upon the official blue books of the United Kingdom and of Canada. The British data are worked over into lb. in weight and dollars and cents in value. The average import prices in cents per lb. are found by dividing the total declared import value of the goods for the year by the quantity of the same. In this way

we get a true average value that would be impossible to find by any other method.

In each chart for British trade this average price per lb. as it is imported is shown above a series of upright bars each representing the quantity of the product imported into the United Kingdom during the calendar year. The bars representing the British imports from all countries are shown in white outlined in black. Below these are shown in solid black the Canadian net exports to all countries of the product in question. To ascertain the net exports we have taken the figures for the exports of Canadian produce and subtracted the imports entered for consumption as shown in the Canadian official records. This gives what is our real surplus sold outside within the year. In case the imports have been greater than the exports, the net movement of the goods is, of course, reversed, and then our solid bars are shown below the line instead of above it. In some cases the international movement of our goods has been so small that they positively cannot be seen on the scale which we have used, and in many cases it would be much truer to call the solid black representing our trade a ribbon of varying width rather than a series of bars; however, they really are bars drawn on the same scale of quantity and from the same base line as the British import quantities. The reason that these bars do not fit into the calendar years is that the fiscal years for which our exports are shown do not in any case correspond to the calendar years although three different fiscal years have had to be depicted within this period. In every case the Canadian data are shown for the exact time in which the movements took place.

The chart for wheat (Fig. 1) is unique with regard to the part played by Canadian supplies. This is not the only case in which our exports have been a considerable part of the British imports, but it is the only one in which they have been steadily rising since 1906. In the case of almost every other one of our staples our surplus fell off progressively from 1906 until the extra lure of war prices caused our exports to reappear.

The record of our new railway mileage is the best statistical light which we can shed on the situation to show the reason for this change in our agriculture. New railway mileage is an excellent indication of the energy which is being devoted to opening up new country. Beginning with 1905 our new railway mileage for each year rose to much higher levels than before. The decade beginning with that year saw Canada devoting her energies to getting ready to produce on new lands rather than pushing production on the lands already opened up. As a result we had a good showing in our surplus of wheat toward the end of the period, but we were continually falling behind on our other staple foods and were paying freight across the Pacific on great quantities of produce which we paid the Chinese and the Australasians to raise for us.

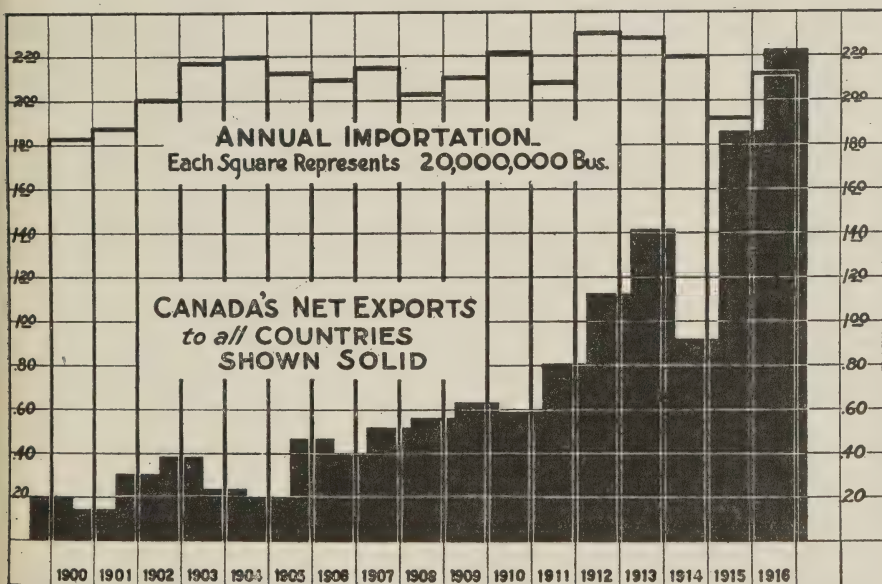
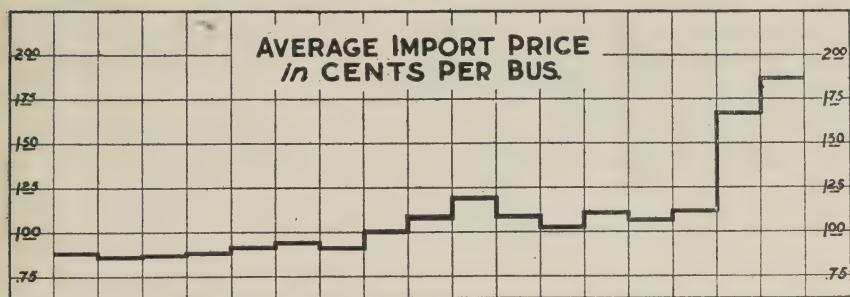
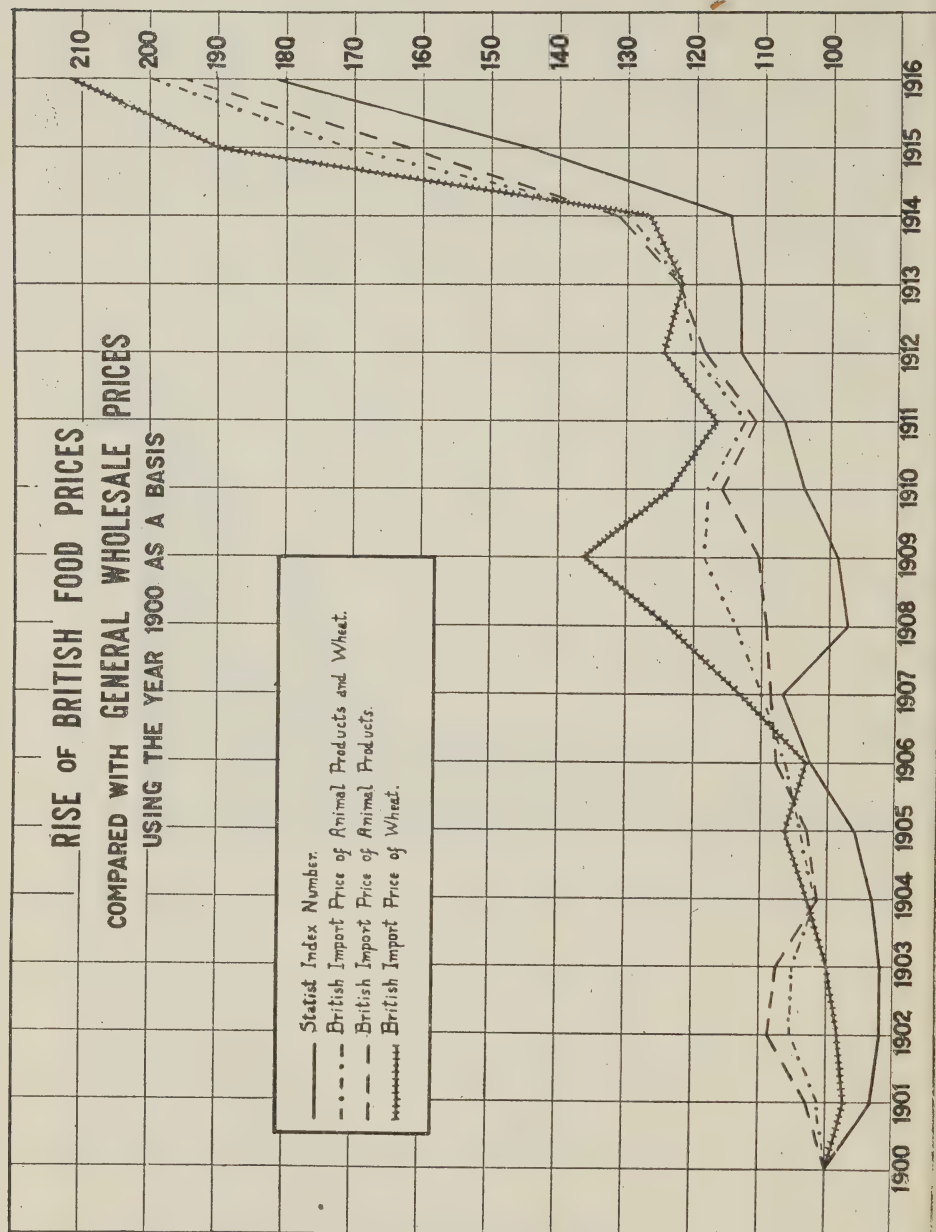


FIG. 1. TRADE IN WHEAT: BRITISH IMPORTS COMPARED WITH CANADIAN EXPORTS.

WORLD'S FOOD MARKETS.

The chart comparing the rise of British food prices with general wholesale prices (Fig. 2) tells us a vitally important story. Here we have denoted the rise of prices from the basis of the year 1900 of these imported staple farm products and of a general list of articles used by the London Statist to show how wholesale prices in general are moving; this list includes textiles, mineral products and many items other than food. This general wholesale price rose by 14 p.c. up to the year 1914, while the import price of animal products and wheat, as deduced from the declared import values, rose by about 30 p.c. A more careful



search has shown that these raw farm products have risen more in price than have foods in general which include manufactured foods. The same thing holds true in the American market; products direct from the farm have risen most in value during these years of rising prices; manufactured foods have not risen quite so much although even they have risen more than prices in general. In other words, the direct products of our farms are rising in price more rapidly than the products of our industrial life. The reason is not far to seek. We have all of us become so fond of crowding into the cities where manufacturing and trading is carried on and of building railroads that we have relatively neglected our agriculture. Meanwhile, the demand for food has increased. It is said that the white population of the earth has trebled during this last century.

Relatively, the demand for food has increased, while the world has been more interested in supplying industrial products. It cannot be gainsaid that this rise of prices of farm products beyond general wholesale prices is due to a comparatively greater unsatisfied demand for such products as against industrial products. Were we to compare farm prices with prices of industrial products alone, instead of with a general list of commodities including foods, the result would be still more striking. A careful investigation of the general rule, manifested very clearly on all the charts of imports and prices, shows that there is a very close connection between a falling off in supply and a rise in price. If we could show the total supply, including the domestic production, the result would, doubtless, be a more invariable correspondence between supply and price.

Prices for farm products were rising twice as rapidly as wholesale prices in general in the years before the war in both the British and American markets. That means that there was some such underlying force as we have indicated making a comparatively greater demand for these products. The whole question of the falling purchasing power of the dollar is eliminated, for we are noting a rise above prices in general.

POSITION OF CANADA IN RELATION TO FOOD PRODUCTION.

There is a very good reason to suppose that this same force will continue to act when war conditions subside, and that prices for farm products will rise relatively faster than for other commodities. In brief, the most profitable things to offer the world market will be those products which are relatively in demand and were rising fastest in price in normal times, namely, the products which we can raise on our farms. We cannot doubt that it will be profitable to have these things to sell in abundance when the war is over, when we consider the most serious depletion of the agricultural resources of Europe and the resulting semi-starvation which is imminent.

Canada is most fortunate in finding herself in an excellent position to cater for this demand. In fact, agricultural products are the kind of exports which we are best able to offer. We have vast agricultural resources, part of which have barely been "scratched" up to the

present time. We have the most fortunate situation in the world geographically, with our nearness to Great Britain and our close proximity to the United States, which is fast also becoming an importer of foodstuffs. On the other hand, our industrial opportunities are, as yet, limited. We have no coal in the heart of the country where the bulk of the population is, and we have not yet turned our water-power to full account. Anyway, we have not yet the density of population in the country as a whole to claim a high place as a manufacturing nation. Our talents so far are for the products of the soil. We are equipped with transportation facilities to handle our crops. The foreign demand for foodstuffs is most urgent at present and promises to continue to be strong after the war. If we seize the opportunity to meet this demand we shall do our duty for the present and be able within the least possible time to change our war debt into national prosperity.

WHEAT SITUATION.

The wheat chart (Fig. 1) shows quite a steady annual importation of wheat into Great Britain, with a tendency towards a gradual rise in quantity in the 14 years before the war. The price-line evidences no connection between the quantity of imports and the price. This is because in the case of wheat Britain simply buys what she needs over her own production from a highly organized world market. In the case of no other commodity is the world market more highly organized and less influenced by local conditions. The demand is also extremely steady. We find, then, that the price is a world price and corresponds very closely to changes in the world crop; when the world crop is large the price is low; when the crop is light the price is higher. The unusual price of 1909 was due to a light world crop for two successive years and shows the long continued effect of a world shortage. In the matter of price we must also note that the price has been rising, with only relatively minor set-backs, since the opening of the century.

We must not lose sight of the fact that the Canadian net exports have been rising very rapidly of late until they have more than overtaken the British demand. True, other countries also import wheat, but, on the other hand, we are not the only exporters. Is there, then, danger of over-supplying the market, with resultant ruinous prices? The answer is very clearly that there is absolutely no such danger while the war is on, and for a time thereafter. Russia is a large producer, normally; and now there is every indication that she will not hurt our market for some time. So long as the war is on we are guaranteed against hurtful competition from any of the countries of the southern hemisphere on account of the lack of shipping facilities. The same situation will protect us for a time after the war.

PRODUCTION OF MEAT, CHEESE, BUTTER AND EGGS.

When the world commerce becomes normal again shall we, Canada, be in danger of over-supplying the world's wheat market?

There certainly is no such danger until such normal times do return, and, consequently, nothing stands in the way of our doing our best to stimulate wheat production to the utmost for the present crisis. But we should by that time be prepared to turn to mixed farming with animal husbandry instead of devoting so large a proportion of our efforts to the raising of wheat. Even stronger than any possible danger of over-production stand out certain other factors which call loudly for increasing our output of animal products. In this short space we can only draw attention to these briefly.

Foremost among the reasons for animal husbandry stands the fact that otherwise we shall lose the fertility of our soil. Secondly, we can thereby not only utilize to best advantage the lands which should

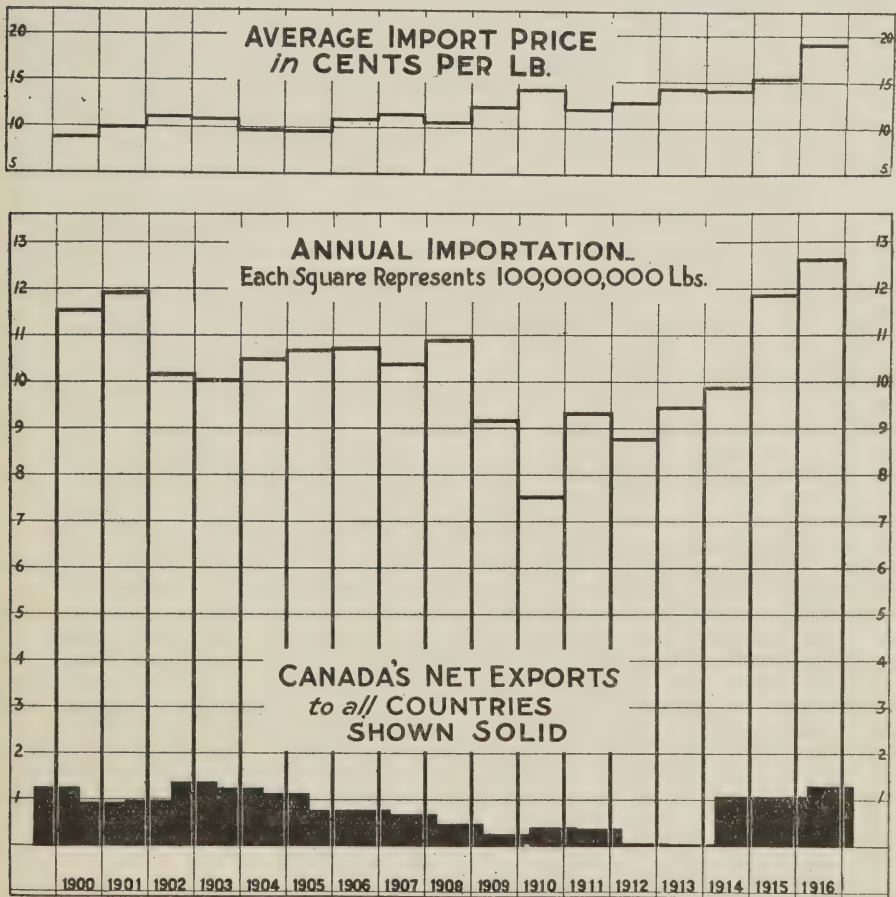


FIG 3. TRADE IN PORK: BRITISH IMPORTS COMPARED WITH CANADIAN EXPORTS.

wholly or partially be devoted to raising fodder, but we can turn our human energies into account in the time of year when agriculture is at a standstill; the farmer can make good use of our long Canadian winters. Of great, though less self-evident weight is the factor that the products of such mixed farming would be sent off to market more evenly throughout the year, and this will be found to be a great money saver in the matter of transportation.

Turning to animal products let us look at pork first. The chart (Fig. 3) shows us first that the British import price has been rising throughout the whole period; in fact the price was rising so rapidly before the war that we find less indication of the sudden soaring of prices on this chart than on the others. Prices were rising because the demand was very active and the foreign supplies were falling off. The

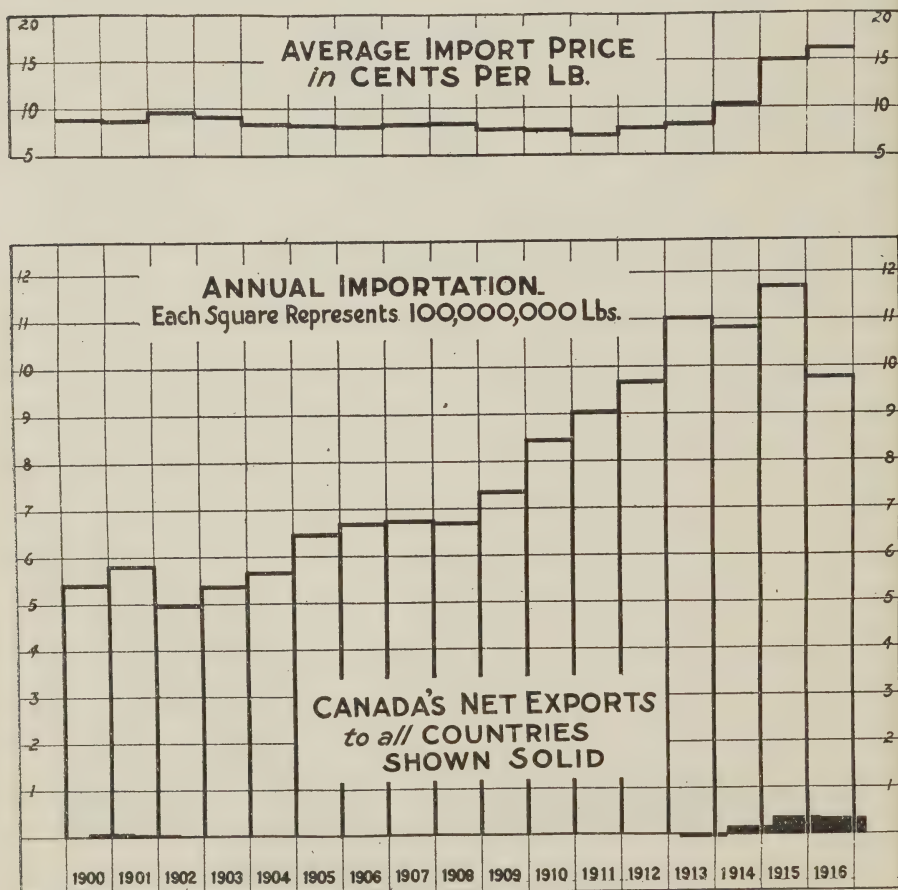


FIG 4. TRADE IN BEEF: BRITISH IMPORTS COMPARED WITH CANADIAN EXPORTS.

close correspondence between the high prices of certain years in the period with smaller imports for these years shows the keenness of the demand. Pork has been, and still is a most favourable product to sell, for the demand is rising faster for it than for other commodities. In the face of this fact the Canadian exportable surplus fell steadily from 1903 to a very low level just before the war, and even with all the demands resulting from the war we have not come up to our former mark. The outlook for the future is highly favourable for pork. The United States is the greatest producer, and her supplies are constantly being used more largely at home while her prices are rising considerably more rapidly for pork than for commodities in general.

The British beef chart (Fig. 4) does not appear so encouraging. British prices constantly fell until 1911, and the imported supplies rose and kept on rising. Doubtless the rise from 1911 up to the beginning of the war was due to the practical cessation of United States exports and the consequent basing of prices upon the longer shipment from the southern countries. But South America has vast resources for raising beef by methods much cheaper than can be employed in our climate. The outlook for a profitable beef market after the war would be very discouraging if we must compete freely with South America. However, good fortune is with us here again. We are in a much more favourable relation to the United States market than is any other source of supply, Mexico not excepted. A glance at the United States beef chart (Fig. 5) will show very clearly that we have right at our side a most favourable market for our beef. The decline in their exportable surplus is as spectacular as the rise of their beef prices. Their beef production before the war was not able to supply their own demands. Since the war they have exported a great deal, but only at the expense of their own consumption. Selling beef on the American market must be a most profitable business for Canada during many years to come. And for the present, our lamentably small surplus is nothing compared to the crying demands for meat.

The British mutton trade is almost wholly with the countries of the southern hemisphere. Canada has not, so far, taken any active part in this trade; her imports of both mutton and wool always exceed her exports, and as a consequence her net imports are shown below the base line of the chart. Certainly, we could increase our production of sheep without fear of over-supplying the British market or having any marked effect thereupon. Our nearness to the market would give us an advantage over the competing producers, for Australasia normally supplies nearly two-thirds of the British imports of mutton and lamb. It would seem very strange that we should not at least produce enough to supply our own needs. The British market price for mutton which can be taken as a fair world average did show a falling off for a few years before 1909, but since that date it was rising quite rapidly, even before the war. The price of wool has, with somewhat erratic fluctuations, been rising ever since 1901, and before the war was more than one-third higher than it

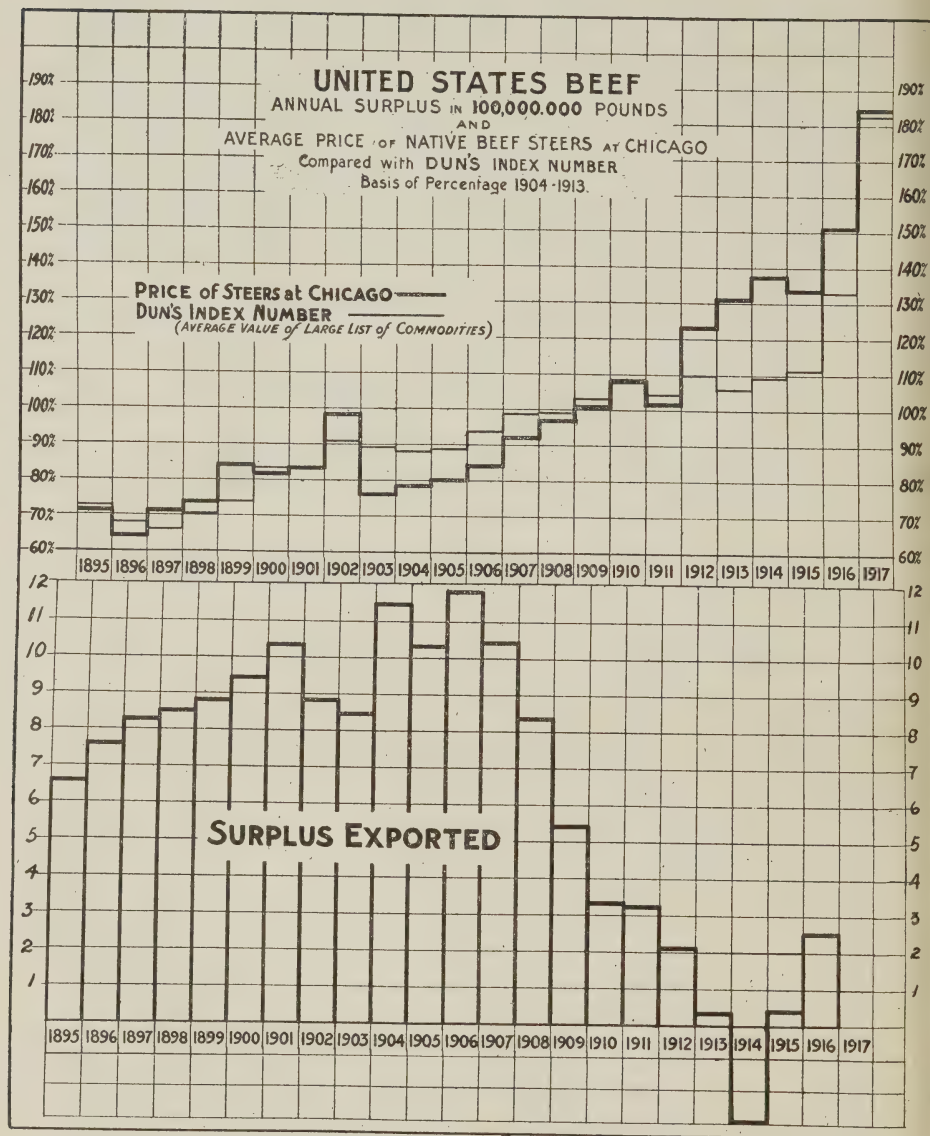


FIG. 5.—PRICE OF UNITED STATES BEEF COMPARED WITH DUN'S INDEX NUMBER.

was at that earlier date. Taking the wool with the mutton and lamb, and considering the disadvantage of distance under which the other producers labour, the market for sheep products should be a very

favourable one for Canada after the war. Unquestionably, the need of these products for war purposes demands the fullest possible production at present.

The cheese chart (Fig. 6) shows that Canada takes a very large part in Britain's supply of this product. The price-line did not rise so rapidly as that for some other commodities, but the price per lb. being small the rise meant more proportionately than a similar rise in a higher priced commodity. The market was strong and favourable, and, though we made up the larger part of the British supply, yet our exports fell off continuously from 1906 until the outbreak of the war.

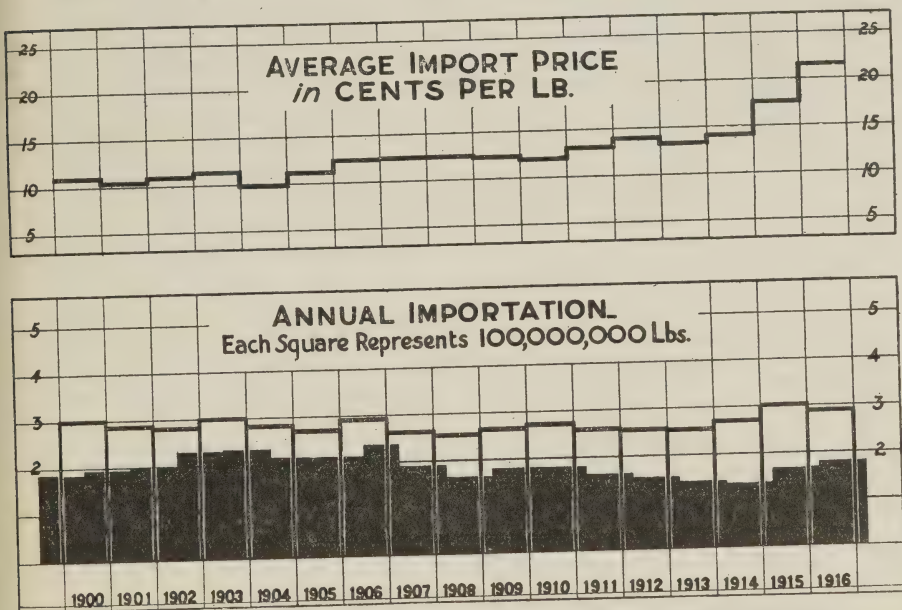


FIG 6. TRADE IN CHEESE: BRITISH IMPORTS COMPARED WITH CANADIAN EXPORTS.

In the case of butter, Canada has very evidently been neglecting her opportunities. The British demand is very strong, and the price has been rising with minor fluctuations throughout the whole period under discussion. Canada has been practically out of the field as an exporter of butter for ten years. Until 1912 we did export a little more than our imports, but for three years between 1912 and 1915 we actually had to import for our own needs. Since the war we have cut down our consumption sufficiently to export a noticeable quantity, but even so we are far from holding the place we did before 1907.

The story respecting eggs is about the same as for butter, only that the situation is more extreme. The British price was rising strongly and practically without set-back throughout the 14 years before the war. Since the war the quantity of imports into the United Kingdom has fallen off seriously and the price has risen very strongly.

The normal supplies of eggs are shut off by the war and there is a very favourable market for anything that we can supply. In addition to the war-time call for our eggs we see that in normal times a strongly rising price made eggs a good article to have to sell. There is every indication that this favourable condition of the market will continue after the war. And yet Canada instead of exporting eggs before the war was importing heavily for her own use. We are absolutely neglecting our opportunities in both butter and eggs.

To recapitulate, we cannot urge too strongly that every possible effort be put forth to increase our production of staple animal products and of cereals. Particularly, there is a crying demand at present for wheat, beef and pork, although any cereal or animal product which we can advantageously raise can be put to profitable use. If our farmers were to lose money it would still be their patriotic duty to do their best. But loss is almost out of the question when farm products are in such extraordinary demand and the world is faced with famine. And of all the products which we can offer to the world's market when the war is over and we must pay our debts, those products which have for years been relatively in greatest demand and whose prices have been rising relatively the most rapidly, namely, farm products, will be the most profitable for Canada to export.

THE WEATHER DURING APRIL.

The Dominion Meteorological Office reports that the mean temperature was very appreciably in excess of the April average in the West, and very nearly average in the other provinces, except perhaps in Nova Scotia and Prince Edward Island, where it was slightly in defect. The precipitation was deficient in all the provinces except Saskatchewan, where it was a little in excess of the normal. In the West it occurred very largely in the form of snow, but in the other provinces was chiefly rain.

PRICES OF AGRICULTURAL PRODUCE, 1918.

I. Weekly Range of Prices per bushel of Canadian Grain at Winnipeg and Fort William, 1918.

(Furnished by the Board of Grain Commissioners for Canada, Fort William, Ont.)

Grain and Grade.	April 6.	April 13.	April 20.	April 27.
	\$ c.	\$ c. \$ c.	\$ c.	\$ c.
Wheat—				
No. 1 Nor.....	2 21	2 21 —	2 21	2 21
No. 2 Nor.....	2 18	2 18 —	2 18	2 18
No. 3 Nor.....	2 15	2 15 —	2 15	2 15
No. 4.....	2 08	2 08 —	2 08	2 08
No. 5.....	1 96	1 96 —	1 96	1 96
No. 6.....	1 87	1 87 —	1 87	1 87
Feed.....	1 77	1 77 —1 78	1 77	1 77

I. Weekly Range of Prices per bushel of Canadian Grain at Winnipeg and Fort William, 1918.

Grain and Grade.	April 6.		April 13.		April 20.		April 27.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Oats—								
No. 2 C.W.....	0 91 $\frac{3}{4}$	— 0 94 $\frac{3}{4}$	0 94	— 0 96 $\frac{1}{2}$	0 89 $\frac{3}{4}$	— 0 94 $\frac{5}{8}$	0 88 $\frac{1}{2}$	— 0 92 $\frac{1}{2}$
No. 3 C.W.....	0 87 $\frac{1}{2}$	— 0 90 $\frac{1}{2}$	0 90 $\frac{1}{4}$	— 0 92 $\frac{1}{2}$	0 86 $\frac{1}{2}$	— 0 90	0 85 $\frac{1}{2}$	— 0 89
No. 1 Feed Ex.....	0 86 $\frac{1}{2}$	— 0 89 $\frac{1}{2}$	0 89 $\frac{1}{2}$	— 0 91 $\frac{1}{2}$	0 86 $\frac{1}{2}$	— 0 90	0 85 $\frac{1}{2}$	— 0 88 $\frac{1}{2}$
No. 1 Feed.....	0 84 $\frac{3}{4}$	— 0 87 $\frac{1}{2}$	0 87 $\frac{1}{2}$	— 0 89 $\frac{1}{2}$	0 84	— 0 88	0 82 $\frac{1}{2}$	— 0 86 $\frac{1}{2}$
No. 2 Feed.....	0 80 $\frac{3}{4}$	— 0 84	0 83 $\frac{1}{4}$	— 0 86	0 80 $\frac{1}{4}$	— 0 84	0 79 $\frac{1}{2}$	— 0 82 $\frac{1}{4}$
Barley—								
No. 3 C.W.....	1 65	—	1 62	— 1 67	1 50	— 1 62	1 50	— 1 53
No. 4 C.W.....	1 60	—	1 57	— 1 62	1 45	— 1 57	1 45	— 1 48
Rejected.....	1 45	—	1 37	— 1 45	1 35	—	1 20	— 1 23
Feed.....	1 40	—	1 32	— 1 40	1 30	—	1 17	— 1 20
Flax—								
No. 1 N.W.C.....	3 84	— 3 91 $\frac{1}{4}$	3 85	— 3 88 $\frac{1}{2}$	3 76	— 3 86 $\frac{1}{2}$	3 92 $\frac{1}{4}$	— 3 88 $\frac{1}{2}$
No. 2 C.W.....	3 79	— 3 85 $\frac{1}{4}$	3 79 $\frac{1}{2}$	— 3 82 $\frac{1}{2}$	3 71 $\frac{1}{2}$	— 3 81 $\frac{1}{2}$	3 75 $\frac{1}{2}$	— 3 85 $\frac{1}{2}$
No. 3 C.W.....	3 61	— 3 67 $\frac{1}{2}$	3 60	— 3 63 $\frac{1}{2}$	3 51	— 3 61 $\frac{1}{2}$	3 62 $\frac{1}{8}$	— 3 63 $\frac{1}{2}$

II. Monthly Range of Prices per bushel of Grain at Selected Markets in the United States, 1918.

(From the Monthly Report of the U.S. Department of Agriculture.)

Grade and Market.	January.		February.		March.		April.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat, Red Winter, No. 2—								
St. Louis.....	2 15	—	2 15	—	2 15	—	2 15	—
Chicago.....	2 17	—	2 17	—	2 17	—	2 17	—
New York (f.o.b. afloat).....	2 26	—	2 26	—	2 26	—	2 26	—
Corn, No. 2, mixed—								
St. Louis.....	1 75	—	—	—	1 60	— 1 90	1 68	— 1 70
New York (f.o.b. afloat).....	—	—	—	—	—	—	—	—
Corn No. 2—								
Chicago.....	1 80	— 1 85	1 75	— 1 80	1 65	— 1 75	1 60	— 1 65
Oats No. 2—								
St. Louis.....	0 80	—	0 86 $\frac{1}{2}$	—	0 86	— 0 95 $\frac{1}{2}$	0 77 $\frac{1}{2}$	—
Chicago.....	0 78 $\frac{1}{2}$	— 0 79	0 80 $\frac{1}{2}$	— 0 81 $\frac{1}{2}$	0 84 $\frac{1}{2}$	— 0 92 $\frac{1}{2}$	0 78 $\frac{1}{2}$	—
Rye, No. 2—								
Chicago.....	1 82	— 1 84	2 10	— 2 18	2 72	— 2 95	2 60	—

III. Range of Prices of Imported Grain and Flour at British Markets, April, 1918.

MARK LANE, LONDON, E.C.

MARK LANE.	April 1-29, 1918.	LIVERPOOL.	April 2-30, 1918.
	\$ c. \$ c.		\$ c. \$ c.
Wheat (per bush.)—		Wheat (per bush.)—	
Canadian No. 1.....	2 42 —	Nor. Man. No. 1.....	2 38½ —
" No. 2.....	2 37 —	Nor. Man. No. 4.....	2 20½ —
" No. 3.....	2 30½ —	No. 2 Hard Winter.....	2 34 —
American—		No. 3 Red Winter.....	2 26½ —
Spring.....	2 35½—2 38½	Oatmeal (per 240 lb.)—	
Hard Winter.....	2 32½—2 35½	Canadian or American.....	16 79—17 03
Red Winter.....	2 26½—2 32½	Canadian rolled oats.....	16 79—17 03
Australian.....	2 48 —	Flour (per 280 lb.)—	
Californian.....	2 38½—2 44½	Manitoba.....	12 41—12 59
Argentine.....	2 41½ —	Kansas.....	12 41—12 59
Oats (per bush.)—			
American.....	1 57½—1 60½		
Canadian.....	1 65½—1 68		
Flour (per bush.)—			
Canadian.....	12 21—12 59		
American.....	12 21—12 59		

IV. Average Prices of British-grown Grain, 1918.

(From the "London Gazette", as published pursuant to s. 8 of the Corn Returns Act 1882).

Week ended—	Wheat.		Barley.		Oats.	
	per quarter.	per bushel.	per quarter.	per bushel.	per quarter.	per bushel.
	s. d.	\$ c.	s. d.	\$ c.	s. d.	\$ c.
April 6.....	72 11	2.218	56 7	1.652	48 10	1.294
" 13.....	73 3	2.228	56 6	1.649	47 2	1.250
" 20.....	73 3	2.228	56 6	1.649	47 0	1.245
" 27.....	73 3	2.228	56 10	1.658	46 8	1.237
Average.....	73 2	2.226	56 7	1.652	47 5	1.257

Change in Title of Census and Statistics Office.—In accordance with the Statistics Act (8-9 Geo. V, c. 50), passed on May 24 in the last Session of Parliament, the Census and Statistics Office will henceforth be known as the Dominion Bureau of Statistics.

PUBLICATIONS
OF THE
Department of Trade and Commerce

REPORT OF THE DEPUTY MINISTER.

WEEKLY BULLETIN

(Circulated within Canada only),

Containing Reports of Trade Commissioners and General Trade Information.

SUPPLEMENTS TO WEEKLY BULLETIN:

Trade of China and Japan.

Russian Trade.

Directory of Russian Importers.

The German War and its relation to Canadian Trade.

Handbook for Export to South America.

Commercial Intelligence Service.

Toy Making in Canada.

The Timber Import Trade of Australia.

EXPORT DIRECTORY OF CANADA.

CANADA AND THE BRITISH WEST INDIES.

CANADA, THE COUNTRY OF THE TWENTIETH CENTURY.

GRAIN INSPECTION IN CANADA.

LIST OF LICENSED ELEVATORS.

RULES AND REGULATIONS OF THE BOARD OF GRAIN
COMMISSIONERS.

REPORT OF THE BOARD OF GRAIN COMMISSIONERS.

MAIL SUBSIDIES AND STEAMSHIP SUBVENTIONS.

For List of Publications of the Dominion Bureau of Statistics, see page iv of cover.

DEPARTMENT OF TRADE AND COMMERCE.

PUBLICATIONS

OF THE

DOMINION BUREAU OF STATISTICS.

ANNUAL REPORT OF THE TRADE OF CANADA.

MONTHLY REPORT OF THE TRADE OF CANADA.

THE CANADA YEAR BOOK, 1916-17, with Map of Canada and Newfoundland, a Statistical Summary of the Progress of Canada and numerous illustrations pp. 1-xvi, 1-720.

Contents: I Natural Resources of the Dominion of Canada, by WATSON GRIFFIN, Department of Trade and Commerce, Ottawa, with 10 illustrations; II Physical Characteristics of Canada, including Geographical Features; Economic Geology in Canada, 1917, by WYATT MALCOLM, Department of Mines, Ottawa; III Area and Population; IV Education; V Climate and Meteorology, with Diagram; VI Production; VII Trade and Commerce; VIII Transportation and Communications; IX Labour; X Finance; XI Administration; XII Legislation and Principal Events of the Years 1916 and 1917; XIII Extracts from the Canada Gazette 1916 and 1917.

THE CANADA YEAR BOOK. Second Series 1905-1915. [1910 and 1913, out of print.]

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. Nos. I to XIX.

REPORT OF THE FIFTH CENSUS OF CANADA, 1911.

Vol. I, 1912. Areas and Population by Provinces, Districts and Subdistricts with Introduction. Tables I to XV, pp. i-viii, 1-623. [Out of print.]

Vol. II, 1913. Religions, Origins, Birthplace, Citizenship, Literacy and Infirmities by Provinces, Districts and Subdistricts, with Introduction Tables I-XLVI, pp. i-iv, 1-634.

Vol. III, 1913. Manufactures for 1910 as enumerated in June 1911, with Introduction. Tables I-XX, pp. i-xvi, 1-432.

Vol. IV, 1914. Agriculture with Introduction. Tables 1-90; I-XXXV, pp. i-xcv, 1-428. Diagrams, 5 pp. [Out of print.]

Vol. V, 1915. Forest, Fishery, Fur and Mineral Production, with Introduction. Tables 1-51; I-XXXVI, pp. i-l, 1-171.

Vol. VI, 1916. Occupations of the People, with Introduction. Tables 1-25; I-VI, i-xxxi, 1-469. [Out of print.]

SPECIAL REPORT ON THE FOREIGN-BORN POPULATION. Abstracted from the Records of the Fifth Census of Canada. June, 1911. 23 tables. 62 pp. 1915.

REPORT OF THE POSTAL CENSUS OF MANUFACTURES, 1916. pp. i-xi; 1-263, 1917.

REPORT ON THE PRODUCTION OF CREAMERIES AND CHEESE FACTORIES, 1915 and 1916. pp. 1-24, 1917.

CRIMINAL STATISTICS. Annual Report for Year ended September 30, 1915. pp. i-xliv, 1-398.

CENSUS AND STATISTICS MONTHLY, Vols. 1-9, 1908-1916; Vol. 10, Nos. 101-103. 1917. MONTHLY BULLETIN OF AGRICULTURAL STATISTICS, Vols. 10 and 11, Nos. 104-115, 1917-18.

For List of other Publications of the Department of Trade and Commerce, see page iii of cover.

Vol. 11

No. 118

DOMINION OF CANADA

DEPARTMENT OF TRADE AND COMMERCE

DOMINION BUREAU OF STATISTICS

Quarterly

MONTHLY BULLETIN
OF
AGRICULTURAL STATISTICS

June, 1918.

Published by Authority of the Right Hon. Sir George E. Foster
G.C.M.G., M.P., Minister of Trade and Commerce.



OTTAWA

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Printer to the King's Most Excellent Majesty

1918

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MONTHLY BULLETIN OF AGRICULTURAL STATISTICS

Vol. 11

OTTAWA, JUNE, 1918.

No 118

DOMINION STATISTICIAN: R. H. COATS, B.A., F.S.S. EDITOR: ERNEST H. GODFREY, F.S.S.
DOMINION BUREAU OF STATISTICS, DEPARTMENT OF TRADE AND COMMERCE,
OTTAWA, CANADA.

FIELD CROPS OF CANADA.

Report for the month ended May 31, 1918.

The Dominion Bureau of Statistics issued to-day, subject to revision, the first or preliminary estimate of the areas sown to grain and hay crops this spring, with a report of their condition on May 31, as compiled from the returns of Crop Correspondents. The returns show very satisfactory increases in the areas sown to wheat and oats, and the condition of these crops on May 31 was generally better than at the same date last year.

AREAS SOWN TO GRAIN AND HAY.

The total area sown to wheat for the whole of Canada for 1918 is estimated at 16,233,000 acres, as compared with 14,755,850 acres, the finally established figure for 1917, representing an increase of 1,477,150 acres, or 10 p.c. The area to be harvested of fall wheat is 340,700 acres, and the area sown to spring wheat is 15,892,300 acres; so that the increase of the latter as compared with 1917 is 1,861,750 acres, or 13 p.c. The area sown to oats is placed at 13,859,000 acres, as compared with 13,313,400 acres last year, an increase of 545,600 acres, or 4 p.c. The acreage of barley is 2,412,000, as compared with 2,392,200 in 1917, of rye 236,230 as against 211,880, of peas 200,330 as against 198,881, of mixed grains 506,830 as against 497,236, of hay and clover 8,210,800 as against 8,225,034 and of alfalfa 104,200 as against 109,825. The areas sown this year to wheat, oats, barley and rye are the highest on record for Canada. Nearly all the provinces have considerably increased their acreage under spring wheat, Nova Scotia by 11, New Brunswick by 44, Quebec by 24, Ontario by 45, Manitoba by 7, Saskatchewan by 11, Alberta by 21 and British Columbia by 6 p.c. The acreage under oats is also increased by percentages ranging from 2 p.c. in Saskatchewan to 13 p.c. in British Columbia, Manitoba showing no change.

GRAIN ACREAGE OF PRAIRIE PROVINCES.

The acreage sown to wheat in the Prairie Provinces totals 15,348,500 acres as against 13,619,410 acres last year, to oats 8,887,000 acres as against 8,559,500 acres, to barley 1,862,000 acres as against 1,850,000 acres, and to rye 150,500 acres as against 121,130 acres. To wheat Manitoba has sown 2,618,000, Saskatchewan 9,222,000 and Alberta 3,508,500 acres. Under oats the acreages are for Manitoba 1,500,000, for Saskatchewan 4,602,000 and for Alberta 2,785,000. For barley Manitoba has 715,000 acres, Saskatchewan 663,500 acres and Alberta 483,500 acres. Under rye Manitoba has 47,000 acres, Saskatchewan 70,000 acres and Alberta 33,500 acres.

CONDITION OF CROPS ON MAY 31, 1918.

Throughout the West the month of May was exceptionally cold, with heavy frosts and consequent retarding of growth. According to the reports of Crop Correspondents, expressed numerically in percentage of the average yield of the past ten years, the condition of the principal grain crops in weighted averages for all Canada was on May 31 as follows: Fall wheat 75 as against 86 last year; spring wheat 96 as against 94; all wheat 96, as against 92; oats 100, as against 91; barley 98, as against 95, and rye 94 as against 97. For other crops the condition on May 31 this year, expressed in percentage of the decennial average, was: peas 101, mixed grains 102, hay and clover 99, alfalfa 97 and pastures 100.

Dominion Bureau of Statistics,
Ottawa, June 12, 1918.

ERNEST H. GODFREY,
Editor.

I. Preliminary Estimate of Areas under Field Crops in 1918, as compared with 1917.

Field Crops.	1917.	p.c. of 1917.	1918.	Field Crops.	1917.	p.c. of 1917.	1918.
	acres.	p. c.	acres.		acres.	p. c.	acres.
Canada—				Quebec—			
Fall wheat....	725,300	47	340,700	Spring wheat .	277,400	124	344,000
Spring wheat....	14,030,550	113	15,892,300	Oats.....	1,492,700	107	1,597,000
All wheat....	14,755,850	110	16,233,000	Barley.....	165,600	102	169,000
Oats.....	13,313,400	104	13,859,000	Rye.....	22,450	100	22,450
Barley.....	2,392,200	101	2,412,000	Peas.....	66,457	102	67,800
Rye.....	211,880	111	236,230	Mixed grains..	122,819	102	125,000
Peas.....	198,881	101	200,330	Hay and clo-			
Mixed grains..	497,236	101	506,830	ver.....	2,961,983	100	2,962,000
Hay and clo-				Alfalfa.....	3,818	98	3,700
ver.....	8,225,034	100	8,210,800	Ontario—			
Alfalfa.....	109,825	95	104,200	Fall wheat....	656,500	42	277,200
P.E. Island—				Spring wheat..	113,000	145	164,000
Spring wheat..	36,000	99	35,600	All wheat....	769,500	57	441,200
Oats.....	201,000	104	209,000	Oats.....	2,687,000	103	2,768,000
Barley.....	3,500	100	3,500	Barley.....	361,000	101	365,000
Peas.....	60	100	60	Rye.....	68,000	93	63,000
Mixed grains..	7,800	104	8,100	Peas.....	126,000	100	126,000
Hay and clo-				Mixed grains..	295,000	102	301,000
ver.....	197,000	101	199,000	Hay and clo-			
Nova Scotia—				ver.....	2,998,000	99	2,968,000
Spring wheat .	16,200	111	18,000	Alfalfa.....	52,000	95	49,000
Oats.....	123,000	106	130,000	Manitoba—			
Barley.....	4,800	100	4,800	Fall wheat....	3,860	52	2,000
Rye.....	300	93	280	Spring wheat..	2,445,000	107	2,616,000
Peas.....	170	102	170	All wheat....	2,448,860	107	2,618,000
Mixed grains..	4,000	101	4,000	Oats.....	1,500,000	100	1,500,000
Hay and clo-				Barley.....	708,000	101	715,000
ver.....	542,000	101	547,000	Rye.....	37,000	126	47,000
New Brunswick—				Mixed grains..	1,400	97	1,400
Spring wheat..	16,000	144	23,000	Hay and clo-			
Oats.....	190,000	105	200,000	ver.....	75,000	96	72,000
Barley.....	1,800	107	1,900	Alfalfa.....	4,400	86	3,800
Peas.....	400	101	400	Saskatchewan—			
Mixed grains..	840	111	930	Spring wheat..	8,273,250	111	9,222,000
Hay and clo-				Oats.....	4,521,600	102	4,602,000
ver.....	568,000	103	585,000	Barley.....	669,900	99	663,500

I. Preliminary Estimate of Areas under Field Crops in 1918, as compared with 1917—con.

Field Crops.	1917.	p.c. of 1917.	1918.	Field Crops.	1917.	p.c. of 1917.	1918.
	acres.	p.c.	acres.		acres.	p.c.	acres.
Saskatchewan—				Alberta—con.			
con.				Hay and clo-			
Rye.....	53,250	131	70,000	ver.....	493,522	99	489,500
Peas.....	2,605	96	2,500	Alfalfa.....	31,396	96	30,000
Mixed grains..	39,500	101	40,000	British Colum-			
Hay and clo-				bia—			
ver.....	260,275	100	260,300	Fall wheat....	3,240	108	3,500
Alfalfa.....	9,500	92	8,700	Spring wheat..	18,100	106	19,200
Alberta—				All wheat....	21,340	106	22,700
Fall wheat....	51,700	112	58,000	Oats.....	60,200	113	68,000
Spring wheat..	2,845,600	121	3,450,500	Barley.....	5,500	106	5,800
All wheat....	2,897,300	121	3,508,500	Peas.....	1,338	104	1,400
Oats.....	2,537,900	109	2,785,000	Mixed grains..	1,850	103	1,900
Barley.....	472,100	102	483,500	Hay and clo-			
Rye.....	30,880	108	33,500	ver.....	129,254	99	128,000
Peas.....	1,851	108	2,000	Alfalfa.....	8,681	104	9,000
Mixed grains..	24,027	102	24,500				

II. Preliminary Estimate of Areas sown to Wheat, Oats, Barley and Rye in the Prairie Provinces, 1918, as compared with 1917.

Provinces.	1917.	Per cent of 1917.	1918.
	acres.	p. c.	acres.
Prairie Provinces—			
Wheat.....	13,619,410	113	15,348,500
Oats.....	8,559,500	104	8,887,000
Barley.....	1,850,000	101	1,862,000
Rye.....	121,130	124	150,500
Manitoba—			
Wheat.....	2,448,860	107	2,618,000
Oats.....	1,500,000	100	1,500,000
Barley.....	708,000	101	715,000
Rye.....	37,000	126	47,000
Saskatchewan—			
Wheat.....	8,273,250	111	9,222,000
Oats.....	4,521,600	102	4,602,000
Barley.....	669,900	99	663,500
Rye.....	53,250	131	70,000
Alberta—			
Wheat.....	2,897,300	121	3,508,500
Oats.....	2,537,900	109	2,785,000
Barley.....	472,100	102	483,500
Rye.....	30,880	108	33,500

III. Condition of Field Crops, May 31, 1917 and 1918.

NOTE.—100 represents the promise of a yield per acre equal to the average annual yield per acre of the ten years 1908-17.

Field Crops.	1917.	1918.	Field Crops.	1917.	1918.
	Per cent.	Per cent.		Per cent.	Per cent.
Canada—			Ontario—con.		
Fall wheat.....	86	75	Barley.....	99	104
Spring wheat.....	94	96	Rye.....	91	87
All wheat.....	92	96	Peas.....	100	100
Oats.....	91	100	Mixed grains.....	100	102
Barley.....	95	98	Hay and clover.....	80	100
Rye.....	97	94	Alfalfa.....	95	103
Peas.....	98	101	Pasture.....	80	101
Mixed grains.....	98	102	Manitoba—		
Hay and clover.....	88	99	Fall wheat.....	77	93
Alfalfa.....	90	97	Spring wheat.....	93	92
Pasture.....	92	100	All wheat.....	93	92
P. E. Island—			Oats.....	98	99
Spring wheat.....	87	103	Barley.....	87	99
Oats.....	100	103	Rye.....	97	91
Barley.....	98	103	Peas.....	78	90
Peas.....	99	105	Mixed grains.....	90	96
Mixed grains.....	100	105	Hay and clover.....	85	86
Hay and clover.....	90	107	Alfalfa.....	77	84
Alfalfa.....	97	90	Pasture.....	79	85
Pasture.....	91	104	Saskatchewan—		
Nova Scotia—			Spring wheat.....	83	97
Spring wheat.....	102	102	Oats.....	87	100
Oats.....	101	101	Barley.....	92	97
Barley.....	108	99	Rye.....	112	97
Rye.....	71	101	Peas.....	72	95
Peas.....	105	101	Mixed grains.....	97	97
Mixed grains.....	91	101	Hay and clover.....	99	95
Hay and clover.....	90	80	Alfalfa.....	90	76
Alfalfa.....	—	90	Pasture.....	97	95
Pasture.....	84	98	Alberta—		
New Brunswick—			Fall wheat.....	107	79
Spring wheat.....	86	105	Spring wheat.....	98	95
Oats.....	72	105	All wheat.....	102	95
Barley.....	75	100	Oats.....	96	94
Peas.....	98	104	Barley.....	94	93
Mixed grains.....	77	106	Rye.....	93	99
Hay and clover.....	85	107	Peas.....	88	95
Alfalfa.....	—	95	Mixed grains.....	97	106
Pasture.....	84	106	Hay and clover.....	100	90
Quebec—			Alfalfa.....	100	93
Spring wheat.....	97	107	Pasture.....	100	88
Oats.....	93	105	British Columbia—		
Barley.....	96	104	Fall wheat.....	78	96
Rye.....	109	103	Spring wheat.....	100	99
Peas.....	97	104	All wheat.....	94	98
Mixed grains.....	97	104	Oats.....	72	98
Hay and clover.....	88	104	Barley.....	99	98
Alfalfa.....	102	95	Rye.....	95	95
Pasture.....	85	104	Peas.....	99	96
Ontario—			Mixed grains.....	100	95
Fall wheat.....	82	74	Hay and clover.....	99	97
Spring wheat.....	89	104	Alfalfa.....	97	96
All wheat.....	91	84	Pasture.....	97	93
Oats.....	96	105			

NUMERICAL EXPRESSION OF CONDITION OF CROPS.

As explained by the "Special Notice to Crop Correspondents", which appeared in the April issue (Vol. 11, No. 116, p. 103), the Dominion Bureau of Statistics has decided to change the method previously adopted for the numerical expression of the condition of crops at a given date. Hitherto the method in use has been one in which the number 100 represents a "standard" or "full crop"; but beginning with the May report of the present year this system has been changed for one in which the number 100 represents the average yield per acre of the previous ten years. The annual average yields per acre, for Canada and by provinces, of the principal field crops for the ten years 1908-17 was published in the April issue (pages 105-6), and a copy of these averages has been communicated to each Crop Correspondent of the Dominion Bureau of Statistics for his guidance in reporting under the new system.

Although a few Crop Correspondents, in reporting on the condition of crops at the end of May, failed perfectly to apprehend the new system, the great majority of them followed the instructions intelligently, and no difficulty was found in compiling the necessary averages from the returns made. There is no doubt that all the Crop Correspondents of the Bureau will speedily become accustomed to the new method, which combines simplicity with greater accuracy and definiteness than were possible under the previous system.

In Table III the results are given in comparison with those of the corresponding date of last year, the figures of last year expressing condition in percentage of the "standard" or "full crop" having been converted into the new scale by calculation from previous records of condition and yield. The figures for all Canada are averages weighted according to the areas under each crop in each province.

CROP REPORTS FROM THE PROVINCES.

Month ended May 31, 1918.

Prince Edward Island.—The spring is rather backward, but the weather is very favourable for putting in crops, and the work is progressing well. Hay is in good condition. Orchards look well; the apple blossoms are just appearing. Cherries suffered from blight. The small fruits wintered well. More vegetables will be sown this season.

Nova Scotia.—The season so far has been cold and dry with frosts at night, which, however, have caused little damage. The ground is in good condition for seeding, which is almost finished. It is early to report on vegetables, as growth is backward. The hay is short, and some on low land was winter-killed, so a light crop is expected unless warm rains occur soon. The orchards are in blossom two weeks earlier than last year, and promise a good crop.

New Brunswick.—Although cold, the weather has been fine and dry, and seeding is well advanced. More wheat will be sown, and what

has appeared looks promising. The hay and clover crop is excellent. The appearance of orchards is splendid except in some districts, where a light apple crop is expected. The planting of potatoes and gardens is not completed.

Quebec.—Most favourable conditions prevailed for seeding, which is nearly completed. Fortunately, the frosts of April and the cold rains of May did not cause any damage. They only retarded the growth of field crops. At present, pastures and meadows look splendid. Fruit trees suffered exceedingly this winter from the intense cold. A great quantity of apple and plum trees were destroyed by the heavy frosts. Several correspondents state that trees have been damaged by field mice. Small fruit bushes are in full bloom and give promise of an abundant crop. Vegetables have not made much progress. Great anxiety prevails over the question of hired labour for harvesting the crops.

Ontario.—Fall wheat in all districts is practically a failure owing to the severe winter and spring frosts; in some cases it was ploughed up and spring wheat or mixed grains were sown instead. Barley, oats and rye have suffered somewhat from the frost in the latter part of April and early part of May, but spring wheat and all the grains in general are doing well, although difficulty in obtaining seed was experienced by many. Old meadows and pastures were injured by the ice; but since the warm rains of the latter part of May the hay and clover are promising well. In northern Ontario the very wet spring delayed seeding, and the condition of low-lying land was bad. In other parts of the province the seeding weather was very good, and vegetables, especially potatoes, promise an abundant crop. The orchards bloomed well and apples, particularly the early varieties, should be plentiful. Pears and plums should be fairly good, but the cherries are not so promising, and the peaches will be far below the average. The small fruits are good with the exception of strawberries which were winter-killed in many parts. The orchard trees suffered severely from the winter, and, owing to the lack of help, spraying is being neglected; so that some of them are being attacked by larvæ. The prospect on the whole is promising, and if warm weather continues the crops should be very good.

Manitoba.—The early sown wheat, especially that sown on summer fallow had a very hard time this spring owing to the high winds, with consequent drifting sand and severe frosts during the first weeks of May. Oats were also injured and fall rye is poor; but oats and barley on the whole are good and conditions, particularly in the south, have improved greatly since the warmer weather and good rains at the end of May, which will prove beneficial to all crops. Although part of the wheat has been reseeded to barley a good average crop may be looked for if the warm weather continues. Vegetable gardens are very backward owing to the severe frosts and windy weather, though potatoes promise well. Reseeding of gardens was necessary in many cases. Pastures were injured by the severe winter and spring frosts. Small fruit bushes were almost completely destroyed by frost, and all fruit has suffered more or less.

Saskatchewan.—Owing to the severe frosts, snow-storms and high winds during the early part of May, the growth of wheat, oats and in fact all crops, has been considerably retarded, and in some cases the crops have had to be resown. The warm weather and moisture of the latter part of May is improving crops, the root system having been strengthened somewhat by the frosts, but more rain is needed. Small fruits and spring vegetables were greatly injured by frosts, but prospects are good.

Alberta.—Both in the north and south of the province April was warm and favourable and the seeding of grain was earlier than usual, but a cold, dry, windy May, with severe frosts from the twentieth to the twenty-sixth set the grains back seriously. In the worst places reseeding of oats was necessary. The wheat sown on summer fallow is doing well, but later sown wheat has suffered from frost. The seeding of vegetables was late on account of the dry weather. Early sown vegetables were injured by the frost, and the fruit trees suffered, but are doing better than might be expected. Currant and berry bushes of all kinds look very promising. In the north, cutworms have been troublesome in oats. Warm weather and rain are badly needed in most districts, though in the northern part a heavy rainfall occurred at the end of May, and being followed by warmer weather prospects are much brighter.

British Columbia.—The grain crops are up to the average, though in some places the frosts have held back the growth of oats and spring wheat. Heavy frosts, especially in the third week of May, have in many districts done much damage to fruit trees and vegetables. Many fruit bushes and trees have been injured by tent caterpillars, and alfalfa and clover have suffered from the ravages of cutworms. In a few places gardens have been so injured by the dry weather that reseeding was necessary, but in most parts fruit and vegetables promise well. Rain is badly needed.

CROP REPORTS OF PROVINCIAL GOVERNMENTS.

Ontario.—The Ontario Department of Agriculture reported (May 27) that spring grains were never more promising at this stage. Sowing was practically completed, although some oats remained to be put in in a few localities. Although fall wheat had been considerably improved by the very favourable weather of the last two or three weeks, the heavy injury done early in the spring left the crop with the very poorest of prospects. Clover was growing fast, and gave promise of a fair general yield, even though many fields were rather spotted. There promised to be an increase in the number of sheep, as more land was being given to pasture. Grains and mill feeds are scarce and dear. Hay is plentiful, selling at from \$15 to \$18 a ton. There is a fair supply of straw and roots for roughage, but silage was never so scarce so early in the season.

The report of June 5 stated that timely rains, with warm weather during the week, had favoured all field crops for growth. Clover fields and pastures generally are looking their best, and the prospects

are excellent for another good hay crop. Spring grains never gave better promise at the beginning of June. An increased acreage of peas was likely this season. Live stock were thriving upon the lush pastures. Some fine beef animals were being finished off on the grass. Dairy cows were in good demand at from \$100 to \$150. Milking machines were increasing in use.

On June 10 reports stated that the excellent germination of seed corn had been a surprising feature of the season, as so much soft corn had been complained of last year. In some of the Lake Erie counties the crop has already received one or more cultivations, and is considered to be very forward in growth. In the same district sugar beets and mangolds have already been thinned. Potatoes are also well advanced, and were receiving attention. Essex reports some early cabbage on the market, and in Kent and Norfolk strawberries have been sold at 30 cents a quart. Fall wheat was beginning to head in some of the southwestern counties, but the yield will be small. Clover fields present a fine appearance, and the prospects are good for a fairly full hay crop, to be cut about a week earlier than commonly.

On June 17 it was reported that the growth of spring crops had been slowed up somewhat by the cool weather prevailing during the past week. Potatoes and mangolds and other roots were looking well in every district. All spring grains promised good yields, more especially oats, and most of them show an increased acreage. Fall wheat is now nicely in head, but much of it had been patched with other grains. Clover is in bloom and young meadows promise excellent yields. The cutting of clover and timothy will be earlier than usual. The first cut of alfalfa has been made in several localities, and a very fair crop is reported. Shipments of beeves, especially choice animals, have fallen off, although prices have been rising. Young cattle are doing very well on pasture, as the grass is now at its best. Beef cattle sell at from 12 cents to 16 cents a pound; dairy cows bring from \$75 to \$150 each. Milk production is at high tide, and cheese and other dairy factories are working full time or more. Hogs are lower in price than for many months, the figures quoted ranging from \$16.50 to \$17.60 a cwt. Wool brings from 60 cents to 68 cents a pound.

Saskatchewan.—On June 17 the Saskatchewan Department of Agriculture issued a preliminary estimate of the areas sown this spring to field crops, including wheat 9,222,000 acres, oats 4,602,000 acres, barley 663,500 acres, rye 70,000 acres, peas 21,500 acres, mixed grains 40,000 acres, hay and clover 260,300 acres and alfalfa 8,700 acres. In issuing this statement the Department states that it is a matter for congratulation to the farmers on their endeavour to increase materially the acreage sown to wheat and other grains. Reporting on the crop conditions for the week ended June 15 it is stated that terrific winds did a great deal of damage in some sections of the province, but that the damage did not appear to be general. Local showers were reported from some quarters, while other sections report no damage from either wind or lack of rain. Cutworms were reported in the Shellbrook district.

Alberta.—During June the Alberta Department of Agriculture telegraphed as follows: June 15: "Grain crops over the southern and central portion of the province have improved greatly during the past week of warm weather. The weather has been cool in the Peace River, however, while the general outlook over the province is fairly satisfactory. Rain is badly needed in most parts. The country adjacent to Edmonton was served plentifully by rain on Friday, but this moisture was limited to a rather small district. General rain is needed soon, otherwise the grain crops are likely to be somewhat short over a considerable area." June 22: "Reports received by the Department to-day indicate that dry weather continues, broken only by light showers over a large portion of the middle and southern part of the province, which has seriously hindered growth to date. In many places the crop has been damaged by winds, and unless heavy rains come at once the outlook for a fair crop, even throughout a large portion of the territory mentioned will be very doubtful. The central and southern portions of the province however have been favoured with heavy rains, and the prospects are very encouraging for a good yield. Peace River district has been favoured with heavy showers and warm sun. The present prospects are excellent."

DATES OF SEEDING AND GERMINATION OF SPRING WHEAT, 1918.

The tables on pages 172 and 173 continue the records of dates of seeding and germination of spring wheat which were given in last month's Bulletin (May, 1918, p. 136). Table I shows that seeding in the Maritime Provinces proceeded throughout the month of May, being most general in the second and third weeks, whilst the dates of appearance above ground predominated during the third and fourth weeks. In Quebec, 99 correspondents recorded seeding to be general in the first week, 70 in the second week, 118 in the third week and 11 in the fourth week. The records of visible germination were: first week 33, second week 88, third week 96, fourth week 122. In Ontario and the remaining provinces the sowing was practically completed during April, and the largest number of records of visible germination were for the last week of April and the first week of May. In the two last columns of Table II (p. 173) are given the average number of days from seeding to appearance of the crop as recorded in April and May. Where germination was recorded for both months the average was longer in May than in April, this being due to the coldness of the latter month.

I.—Dates of Seeding of Spring Wheat, 1918.

Province and District.	Earliest date when seeding is general.	Total No. of replies in April.	Number of records that seeding was general.								Total No. of replies in May.
			April 1-7.	April 8-14.	April 15-21.	April 22-30.	May 1-7.	May 8-14.	May 15-21.	May 22-31.	
Prince Edward Island.....	May 6.....	—	—	—	—	—	1	11	34	6	52
Nova Scotia.....	April 18.....	—	—	—	—	—	11	15	38	10	74
New Brunswick.....	April 20.....	—	—	—	—	—	11	27	17	2	57
Quebec.....	April 15.....	78	—	—	12	66	99	70	118	11	298
Ontario East.....	April 16.....	19	—	—	4	15	16	2	1	—	19
“ Central.....	April 2.....	33	1	6	25	1	2	—	—	—	2
“ South.....	March 27.....	27	4	14	8	—	2	1	—	—	3
“ West.....	April 1.....	52	7	7	26	12	6	—	1	—	7
“ North.....	April 1.....	52	2	6	13	31	8	6	2	—	16
Manitoba North.....	March 28.....	59	116	27	16	—	1	—	—	—	1
“ South.....	March 21.....	71	230	34	7	—	—	—	—	—	—
Saskatchewan North.....	March 30.....	119	39	56	44	10	3	2	—	—	5
“ South.....	March 20.....	90	45	42	5	8	—	—	—	—	—
Alberta North.....	April 1.....	74	6	31	33	4	1	1	—	—	2
“ South.....	March 27.....	41	510	23	7	1	—	—	—	—	—
British Columbia.....	April 6.....	17	3	5	7	2	6	1	2	—	9

¹Including 2 in last week of March. ²Including 5 in last week of March. ³Including 1 in last week of March. ⁴Including 4 in last week of March. ⁵Including 3 in last week of March.

II.—Dates of Appearance above Ground of Spring Wheat, 1918.

Province and District.	Earliest date of appearance above ground.	Total No. of replies in April.	Number of records of appearance above ground.								Total No. of replies in May.	Average No. of days from seeding to appearance above ground.	
			April 1-7.	April 8-14.	April 15-21.	April 22-30.	May 1-7.	May 8-14.	May 15-21.	May 22-31.		April	May
Prince Edward Island.....	May 15	—	—	—	—	—	—	—	12	30	42	9	
Nova Scotia.....	April 30	—	—	—	—	—	—	7	15	29	52	9	
New Brunswick.....	May 8	—	—	—	—	—	—	8	19	20	47	10	
Quebec.....	April 30	1	—	—	1	1	33	88	96	122	339	9	
Ontario East.....	April 30	16	—	—	—	—	7	15	5	—	27	9	
“ Central.....	April 18	1	—	3	13	13	15	4	—	—	19	13	
“ South.....	April 13	14	—	2	11	11	8	7	2	1	11	15	
“ West.....	April 20	8	—	1	8	1	17	7	1	2	27	14	
“ North.....	April 20	10	—	3	7	7	11	10	10	2	33	12	
Manitoba North.....	April 15	32	—	—	10	22	24	7	5	—	36	16	
“ South.....	April 11	49	—	4	21	23	16	—	—	—	16	15	
Saskatchewan North.....	April 12	62	—	1	9	52	42	10	8	5	65	14	
“ South.....	April 5	48	2	1	15	30	20	6	—	—	26	16	
Alberta North.....	April 15	41	—	1	6	35	22	8	2	—	32	14	
“ South.....	April 12	30	—	1	12	17	11	2	—	—	13	15	
British Columbia.....	April 16	13	—	—	5	8	7	6	3	1	17	11	

DOMINION EXPERIMENTAL FARMS AND STATIONS.

Central Farm, Ottawa.—The weather during May has been warmer than the corresponding period of 1917, the highest temperature recorded being 85.8, the lowest 28, and the mean temperature 57.31; while a year ago the mean was 48.78 and the extremes were 81 and 30. Nice showers were experienced during the first two weeks and the last few days of the month. The rainfall, 1.8 inch, although about the same as during the previous May—when 1.83 inch was recorded—is lower than the average for the previous seven years. The bright sunshine averages 7.34 hours a day, as compared with 6.44 hours a day for this time last year.

At the Central Farm, the putting in of the hoed crops, consisting of potatoes, mangolds Indian and corn, was begun about the middle of the month and was finished by the 24th. The grain, which was seeded in April, has made a good start and, at the close of the month, looks very promising. Pastures are good, and meadows give promise of a heavy hay crop.

Charlottetown, P.E.I.—J. A. Clark, Superintendent, reports:—“May has been exceptionally fine, with a high average temperature, light winds, and less than two inches of rainfall. There have been only four days without bright sunshine. The last heavy frost occurred on the 5th, when the thermometer registered 28. The 19th was a very hot day, 84 in the shade being recorded. With such ideal weather the crops went in rapidly and satisfactorily. At the close of the month practically all grain has been seeded, potatoes have been planted, and quite a few of the roots seeded, leaving only some of the tender crops, such as corn and beans, to be put in in June. While some of the new meadows are excellent, quite a little winter-killing occurred, and the present prospect is that hay will be somewhat lighter than last year. The trees appeared green on the 18th, which is ten days earlier than last year.”

Kentville, N.S.—W. S. Blair, Superintendent, reports:—“May has been warm, bright and dry, which has greatly favoured the putting in of crops, and, as a result, much more land has been ploughed and put into crop than had been intended. The month has been too dry for grass, and prospects for even a fair hay crop are not good unless there are abundant rains early in June. Frost has been recorded on two occasions, the thermometer dropping to 26 on the 5th and to 31 on the 27th. It is reported that damage was done by the frost on the 27th to apple blossoms, which were out, but it is thought that this injury was not great. The blossoming period started on May 18th, whereas in 1917 it started on June 7th—three weeks later. The period of bloom has been prolonged, and trees are still in flower at the end of the month. The weather, on the whole, has been satisfactory for a good distribution of pollen and a good set of fruit should result. The amount of bloom is about one-half a normal one. Some ninety acres of turnips planted for seed purposes have made a fair start, particularly those planted early. The later planted ones were dried out somewhat, owing to the unusually warm weather, and this

also forced growth in the pits or in storage. The drought, with unusually drying winds, also has hindered the growth and checked development. As a result, the stand has been cut down about twenty-five per cent. Clovers suffered severely during the past winter, and the plants in the alfalfa plots were almost entirely winter-killed."

Nappan, N.S.—W. W. Baird, Superintendent, reports:—"The weather during the first part of May was somewhat dull and showery. From the 12th to the 31st, it has been very fine, warm, and summer-like. These conditions have been suitable for seeding operations. A thunder storm was recorded on the evening of the 23rd. The ground being rather dry, this shower was very beneficial for the germination of seeds sown. Considerable work has been done on the land throughout this month. A start was made on planting stecklings on the 10th; about sixteen acres have been planted during the month. Seeding of grain plots commenced on the 15th, and some acre lots were sown on the 16th and 17th. Some underdraining on fields B2 and B3, was accomplished during the month. The labour of most of these operations has been furnished by prisoners of war."

Fredericton, N.B.—W. W. Hubbard, Superintendent, reports:—"May this season has been more favourable for agriculture than for many years. Almost continuously fine weather, with a gentle rain-fall occasionally, and a mean temperature of 53.5, against a 44-year average of 51 has all been in favour of farm work and the early start of grains and garden crops. No frost has been recorded since the 5th; consequently, New Brunswick farmers have never been in a better position at the beginning of June, in so far as progress of cropping is concerned, than now. At the Station farm, wheat and oats are up from two to five inches, while fall rye is thirty inches high and beginning to show heads. Clover and timothy have wintered well and have made an extra good start. Pastures are capable of supporting stock. There have been excellent lamb and pig crops this season and all live stock is in good condition. Old stocks of hay are pretty well sold out or have been fed."

Ste. Anne de la Pocatière, Que.—Jos. Begin, Superintendent, reports:—"The weather during May has been unsettled throughout, with a mean temperature seven degrees higher than in May, 1918—the highest temperature being 82.6, the lowest 32.8, and the mean 49.4, against extremes of 71.1 and 29.8 and a mean temperature of 42 for the corresponding period of 1917. The precipitation totals 4.24 inches, made up of 1 inch of snow on the 5th, and 4.14 inches of rain, which fell on fifteen different days. The soil, which was well saturated from the spring thaw, has remained wet to the close of the month, and this has retarded seeding, which is backward, except on sandy or well-drained soil. Seeding began on gravelly and well-drained land the last week of April. After a long spell without any rain, April ended wet and May opened with rain falling mostly every night until the 14th, when a few fine days permitted a little seeding on the 17th and 18th and again on the 25th. More than fifty per cent of all grains are bagged ready for seeding, at the close of this month. Grain put in the ground on well-drained and dry, sandy land

has made a good start, though better growth would have been the result of better conditions. The prospects for hay and pastures are about up to the average. The last winter seems to have been the most severe ever experienced at the Station in its effects on European plums and pear trees. Probably four-fifths of the three-year pear trees in this section have been winter-killed. Considerable damage has been done to tender varieties of plums, but nearly all of the hardier sorts promise to survive."

Cap Rouge, Que.—G. A. Langelier, Superintendent, reports:—"Compared with the previous six years, May was warmer, wetter and duller than the corresponding month, the figures being 53.52 and 49.59, respectively, for mean temperature, 4.33 and 4.17 inches precipitation, and 181.9 and 192.9 hours of sunshine. In this district, except on very low lands, and at the Station, all the grain is in the ground by June 1. There has been a little more wheat sown than usual and a corresponding decrease in the area devoted to oats. Most of the grain sown in Central Quebec was brought from the West, and, though of very good quality, is not likely to yield as much as if it had been harvested here. This is probably explained by the fact that plants, as well as animals, do not do as well during the period of acclimatization. Perhaps if a bonus were given for each bushel of pure seed sold, it would help not only the grower, but all the district where such good grain would be produced."

Lennoxville, Que.—J. A. McClary, Superintendent, reports:—"The highest temperature recorded in May is 87, the lowest 27, and the mean 55.87, compared with extremes of 77 and 26 and a mean temperature of 45.38 last year. The precipitation totals 2.32 inches, while in the previous May it amounted to 2.25 inches. The bright sunshine recorded amounts to 200.5 hours, compared with 136 hours a year ago and 155 hours in May, 1916. The weather generally has been fine and warm, which has enabled farmers to get their crops in early and in good condition. Vegetation is earlier in this district than last year, and at the end of the month seeding operations are about completed with the exception of sowing Swedes and beans. At present there is a prospect that haying will be commenced earlier than usual, without a very heavy yield, unless considerable rain is experienced here during June. Owing to our severe winter, much injury has been done to many orchards in this section."

Brandon, Man.—W. C. McKillican, Superintendent, reports:—"May has shown a very wide range of temperatures with a maximum of 92 in the first week, followed with a minimum of 11 on the night of the 12th. On the whole, it has been cooler than the average and on that account growth has been rather slow. The severe frost already referred to cut off all grain crops that were up at the time; but little permanent damage was done, as practically all grew again. Moisture has been sufficient and prospects are favourable if warmer weather comes to stimulate growth. On the Experimental Farm, seeding of all kinds has been completed during the month. Increased areas of corn and fodder crops have been put in, in order to provide feed for the increasing number of live stock."

Indian Head, Sask.—W. H. Gibson, Superintendent, reports:—"May, on the whole, has not been favourable for the crops. The first week was clear and warm, which resulted in good germination. From the 6th to the 28th, however, cool weather, accompanied by strong northwest winds, was experienced, and this, together with heavy frosts on seventeen of the nights, has kept the grain cut down to a great extent. The fact that cloudy mornings usually followed the frosts may account for the grain escaping as well as it did. With the exception of some late oats, seeding in southern Saskatchewan has been completed. The work on the Experimental Farm during the month has included seeding, ploughing, cultivating, repairing fences and caring for live stock and poultry."

Rosthern, Sask.—Wm. A. Munro, Superintendent, reports:—"May opened very mild and favourable for early seeding, but rain and cool weather set in early in the month and continued until nearly the end. There have been two snow-storms and considerable rain, which should be in favour of a good crop for the coming season. Most of the seeding in the district is completed by the 31st. The winter rye sown with oats last June, and cut for green feed last September, has come through the winter in splendid condition and promises well for a large yield."

Scott, Sask.—M. J. Tinline, Acting Superintendent, reports:—"Seeding operations have progressed rapidly, but unfavourable weather conditions have checked the growth of cereal crops. The precipitation of 0.18 of an inch is much lower than has ever been experienced previously for this month; consequently growth has not been so rapid as is desirable and late-sown grain is not germinating evenly. Frosts have destroyed the ends of the leaves of the wheat plants and have thinned out early-sown oats and barley. Strong winds have been more prevalent than usual, but the seed, except in a few small localities, has not been blown out. Rain is much needed at this time. Farmers who were planning to break up new land are hesitating to start owing to the ground being so hard and dry."

Lacombe, Alberta.—G. H. Hutton, Superintendent, reports:—"The weather during May has been cold, windy and, during the earlier part of the month, dry. Seeding operations were practically concluded during the third week of May, with the exception of those areas to be seeded for green feed. Relatively severe frosts have checked growth of the early-sown grain over the entire central section of the Province, some districts reporting the frosts as having been so severe as to necessitate re-seeding. It is not expected, however, that the area requiring to be re-seeded will prove any large proportion of the total acreage, possibly not more than two per cent. During the closing week of the month there has been a moderate precipitation, which has been welcome in that it will have an especially beneficial effect in hastening the recovery of the grain from the effects of the frost, and in forcing a good development of root growth. Live stock in general is in good condition."

Lethbridge, Alberta.—W. H. Fairfield, Superintendent, reports:—"The weather during May has been cool and dry, and, with the latter condition following an April precipitation of only 0.13 of an inch, moisture is much needed. A rainfall of about one-third of an inch, on the 31st, has been very welcome. There was a snowfall on the 17th, and frost was again experienced on the night of the 24th, when the thermometer dropped to 28. Most of the farmers in this district finished their wheat seeding about the beginning of the month.

Invermere, B.C.—G. E. Parham, Superintendent, reports:—"The weather during May has been dry and cold, and, though bright sunshine was recorded on every day of the month, averaging $7\frac{3}{4}$ hours a day, frequent drying winds and the absence of rain have tended to retard plant growth. Night frosts have been experienced on seven occasions, but little damage has resulted. At the Experimental Station, frequent cultivation has been effectual in conserving the unusual winter moisture, but it has been found necessary to commence irrigating the standing crops, all of which, particularly the clover and alfalfa, are looking well. Seeding was practically completed during the first week of the month. The bees have commenced to bring in nectar, and supers have been added to several hives. In the poultry department, some promising broods of chickens and turkeys have been raised, with a very low percentage of mortality; the old hens are being culled and marketed locally, realizing 25 cents per pound, live weight."

Summerland, B.C.—G. E. Parham, Superintendent, reports:—"May has been quite cool, without much sunshine, sufficient rain not being experienced to be of any benefit to vegetation. All fruit crops had set well, and the prospects in most lines were good until the 24th, when there was a killing frost, which has done very considerable damage in low-lying places where air drainage is poor, all stone fruits in these places being killed and apples and pears suffering severely. The extent of the damage to apples cannot be determined just yet, as in many places the apples were damaged inside but appeared all right on the outside. Tomato plants that were out have suffered severely in the district, and a big acreage had been planted out. Early grain crops have stood well during the cold weather. Alfalfa and clover have made good growth. High water mark has been reached by the creek, and the lake is rising fast."

Agassiz, B.C.—W. H. Hicks, in charge, reports:—"May this year has been very similar in many respects to the corresponding period of 1916, but not so much like this month last year. The highest temperature recorded is 75, the lowest 30, and the mean temperature 52.64—compared with a maximum of 78 and a minimum of 35 and a mean of 53.52 in May, 1917. The precipitation totals 4.64 inches and the bright sunshine 160.9 hours, compared with 2.20 inches and 138.7 hours in 1917 and 4.98 inches of rain and 164.2 hours of sunshine in May, 1916. Generally speaking, the weather has been rather too dry and cold for maximum crop growth, but weeds have grown remarkably fast. Two degrees of frost occurred on the 24th, causing

some damage to tender garden crops. The live stock in the district is in very good condition. Large supplies of dairy and poultry products are being sold at good prices. The scarcity of bran and shorts is still being felt."

Sidney, Vancouver Island, B.C.—Lionel Stevenson, reports:—"The dry conditions experienced during April have continued throughout May. During the period the only rain has been in sprinkles, amounting to 0.44 of an inch, which were of no benefit. Frost was registered in many low, air-locked areas and some damage was done to tender garden plants. The crop outlook at the close of the month is not very encouraging. Spring-grown grains and hay have made but little growth, while corn, potatoes and field roots are much behind the development of normal seasons. Grains seeded in October have made very good growth, and many varieties are heading or are in bloom during the last week of the month. Alfalfa and rye and vetches for hay made good growth and were cut. Orchard fruit crops promise well, since an abundance of fruit set and made satisfactory development. The live stock situation has not changed, other than that there is a general tendency to reduce herds, especially dairy animals. Poultry are in good condition, but reduced numbers of young stock are being reared. The strawberry crop for the district is estimated at two-thirds of normal, owing to plantations having suffered from dry weather and weevil injury."

Meteorological Record for May, 1918.

The records of temperature, precipitation and sunshine at the several experimental Farms and Stations for the month of May are given in the following table:—

Experimental Farm or Station at—	Degrees of Temperature, F.			Pre- cipita- tion in inches.	Hours of Sunshine.	
	High- est.	Low- est.	Mean.		Poss- ible.	Actual.
Ottawa, Ont.....	85.8	28.0	57.31	1.80	462	227.7
Charlottetown, P.E.I.....	84.0	28.0	50.37	1.84	465	463.8
Kentville, N.S.....	88.0	26.0	53.98	1.21	461	224.6
Nappan, N.S.....	80.0	24.0	51.41	1.40	463	210.4
Fredericton, N.B.....	88.0	28.0	53.50	2.21	464	209.1
Ste. Anne de la Pocatière, Que.....	82.6	32.8	49.40	4.24	469	208.8
Cap Rouge, Que.....	83.0	30.2	53.52	4.33	468	181.9
Lennoxville, Que.....	87.0	27.0	55.87	2.32	462	200.5
Brandon, Man.....	92.0	11.0	46.10	2.34	478	166.1
Indian Head, Sask.....	86.0	15.0	45.19	1.71	481	175.2
Rosthern, Sask.....	79.2	20.2	45.08	1.26	494	226.2
Scott, Sask.....	80.0	15.6	45.20	0.18	492	252.9
Lacombe, Alberta.....	78.8	18.9	46.00	0.94	489	195.8
Lethbridge, Alberta.....	80.0	21.0	52.00	0.58	477	246.9
Invermere, B.C.....	76.0	24.0	47.80	0.93	481	241.0
Summerland, B.C.....	79.0	31.0	54.22	0.28	478	204.9
Agassiz, B.C.....	75.0	30.0	52.64	4.64	476	160.9
Sidney, Vancouver I., B.C.....	75.0	35.0	52.14	0.44	473	244.5

Ottawa, June 15, 1918.

J. H. GRISDALE,
Director, Dominion Experimental Farms.

CROP REPORTS FROM OTHER COUNTRIES.

England and Wales.—The English Board of Agriculture reports (June 1) that May was generally a very favourable month, the increased warmth and sufficient rains bringing the crops on well. In some few areas the month was too dry, and rain would now be welcomed in most parts for the grain crops. Wheat is mostly looking well, but some of the spring sown on newly ploughed grass land has been damaged by wireworm or leather-jackets. Oats suffered more from these pests on newly broken-up pasture, and re-sowing has in several cases been necessary. On old arable land the crops are strong and healthy; and generally they may be described as satisfactory. Barley is also a satisfactory crop. Beans are good, as are also peas. The area under barley is rather greater than last year; that under oats is larger than a year ago by nearly a fourth. Potatoes generally present a satisfactory appearance, and are of good promise. In many areas planting was late, and the main crop is not yet everywhere above ground. The area under this crop is fully 20 p.c. greater than last year. Mangold sowing was completed under favourable conditions, and the crop is coming up well. In many districts, however, damage is reported from insect pests, and some re-sowing has had to be done. Turnip sowing is going on under satisfactory conditions, but in many districts farmers are waiting for rain. The early sown crops have been frequently attacked by turnip fly. The prospects for all orchard fruit are very poor, particularly plums (which were badly cut by frost) and pears. Bush fruits are decidedly better; strawberries should be about average, raspberries over average; while currants and gooseberries are rather under normal. The area intended for hay, whether from seed or meadow, is decidedly less than last year, by nearly 10 p.c. Prospects are good, however, nearly everywhere, and both kinds are expected to yield a little over average; the best reports coming from the eastern counties. With the warmer weather, and consequent growth of grass, live stock have made good progress during the month, and are generally in satisfactory condition. The supply of labour continues deficient, and, in spite of the assistance of soldiers, women and prisoners of war, there is difficulty in keeping the land clean, but the other work of the farm has generally been done without undue delay. The Whitsuntide hirings showed some further rises in wages.

India.—The Supplementary Memorandum of April 30, 1918, issued by the Indian Government, places the area under wheat for 1917-18 at 35,461,000 acres, and estimates the yield at 378,190,000 bushels. The condition of the crop was reported good in almost all the important wheat-growing provinces.

France.—The Journal Officiel of June 4, 1918, published the results of an inquiry made by the French Department of Agriculture as to the areas sown to cereals by May 1 and their condition on this date. The following statement shows the area sown to wheat, meslin, rye, barley and oats:—

Crops.	1917.	1918.	Difference.
	acres.	acres.	acres.
Spring wheat.....	9,438,000	11,231,000	+1,793,000
Fall wheat.....	959,000	696,000	- 263,000
All wheat.....	10,397,000	11,927,000	+1,530,000
Meslin.....	209,000	215,000	+ 6,000
Rye.....	2,001,000	1,942,000	- 59,000
Barley.....	1,474,000	1,396,000	- 78,000
Oats.....	6,437,000	7,227,000	+ 790,000

So far as it goes this is a satisfactory recovery for 1918 as compared with 1917, but the acreage sown to wheat in 1917 showed a decrease of 2,466,100 acres, as compared with 1916. The general condition of wheat on May 1 is represented by the figure 74, as compared with 52 on May 1, 1917. The condition of most of the wheat sown is therefore good, or at least fairly good.

United States.—The Crop Reporting Board of the U.S. Department of Agriculture states (June 7) that the total area sown to wheat for 1918 is 58,881,000 acres, or 28.2 p.c. more than in 1917, when the area sown was 45,941,000 acres. The area under winter wheat is 36,392,000 acres, or 32.7 p.c. more than in 1917, and under spring wheat 22,489,000 acres, or an increase of 21.5 p.c. The area sown to oats is 44,475,000 acres, or 2.1 p.c. above that of last year; barley occupies 9,108,000 acres, or 3.1 p.c. more; rye 5,435,000 acres, or 32.5 p.c. more and hay 69,531,000 acres, or 0.7 p.c. less than in 1917.

The following table gives the condition and indicated yields for 1918 with comparative figures of 1917:—

Crops.	Condition in per cent of normal.				Yield per acre.			Total yield in millions of bushels.	
	June 1, 1917.	May 1, 1918.	June 1, 1918.	June 1 (10-year average).	1917 (final).	1918 ¹	1912-1916 average.	1917.	1918. ¹
	p.c.	p.c.	p.c.	p.c.	bush.	bush.	bush.	bush.	bush.
Winter wheat.....	70.9	86.4	83.8	80.8	15.2	16.1	16.1	418	587
Spring wheat.....	91.6	—	95.2	93.7	12.6	15.3	13.8	233	344
All wheat.....	78.5	—	87.7	85.3	14.2	15.8	15.4	651	931
Oats.....	88.8	—	93.2	89.4	36.4	33.7	32.8	1,587	1,500
Barley.....	89.3	—	90.5	90.4	23.7	25.8	27.0	209	235
Rye.....	84.3	85.8	83.6	89.6	14.7	14.9	16.5	60.1	81
					ton.	ton.	ton.	tons.	tons.
Hay.....	85.1	89.6	89.0	88.0	1.36	1.54	1.40	94.9	107
Pasture.....	83.8	83.1	92.5	89.8	—	—	—	—	—

¹Interpreted from condition reports.

The prices on June 1, 1918, as compared with the same date last year, placed within brackets, are reported as follows in cents per bushel: Wheat 202·5 (248·5); oats 78·1 (69·9); barley 135·4 (119·3); rye 187·6 (183); per ton: Hay \$17·13 (\$14·68).

In a further statement issued by the U.S. Crop Reporting Board on June 7 the condition of various crops on June 1 is expressed in percentage of their ten-year average. The following are the percentages for some of the principal field crops: Winter wheat 103·7, spring wheat 101·6, oats 104·3, barley 100·1, rye 93·3, beans 102·7, peas 104·3, clover hay 108·7, alfalfa hay 97·5, all hay 101·1.

Broomhall's Corn Trade News.—The issue of June 18, 1918, states that in Argentina good rains have fallen, which should be of the utmost benefit to the new seedings of wheat and flax. In Australia further rains have been reported, but it is still dry in parts of New South Wales. The latest crop reports and indications can be described as favourable on the whole. From France it is reported that the appearance of the crops is magnificent. The earliest crops, such as rye, are now getting well advanced towards maturity, and high hopes for the coming harvest are still entertained. In the southern regions of Italy heavy storms have followed a period of fine weather, and the wheat crop in the neighbourhood of Rome is beaten down. The harvest is about to start in Sicily. It is reported that the drought in Sweden and Denmark came to an end before the coming harvest was seriously compromised, and it is thought it will be possible to raise good crops this year.

THE WEATHER DURING MAY.

The Dominion Meteorological Office reports that the mean temperature was higher than average over the more southern portions of Ontario, Quebec and the Maritime Provinces, but the positive departure diminished to a negative departure in the more northern districts, and was also negative over nearly the whole of British Columbia and the western provinces. The largest positive departure was in eastern Ontario and western Quebec, and the largest negative in northern and eastern Saskatchewan. The rainfall was somewhat in excess of the normal in northern Ontario and also in Quebec near the St. Lawrence, and in western Manitoba, while in all other parts of the Dominion it was in defect. The deficiency was pronounced in Nova Scotia and southern New Brunswick, and also over the greater part of Alberta and Saskatchewan, while in southern Ontario it was but slight.

INTERNATIONAL INSTITUTE OF AGRICULTURE.

The Bulletin of Agricultural and Commercial Statistics for May gives the areas sown to the principal cereals in countries of the northern hemisphere for 1918, as compared with 1917 and with the average of the five years 1911-15. With the areas converted from hectares to acres the figures are as in the following table. :—

Areas sown to Cereal Crops in the Northern Hemisphere, 1917 and 1918.

Countries.	1917.	1918.	Per cent of 1917.	Five year average 1911-15.	Per cent of five- year average.
	000 acres.	000 acres.	p.c.	000 acres.	p.c.
Wheat—					
Denmark.....	138	141	102.4	143	98.4
Spain.....	10,134	9,997	98.6	9,827	101.6
France.....	10,569	11,360	107.5	14,179	—
England and Wales.....	1,918	—	115.0	1,954	—
Scotland.....	55	67	121.8	—	—
Ireland.....	124	—	—	56	—
Luxemburg.....	22	23	104.8	27	85.1
United States.....	40,091	42,171	105.2	34,059	123.8
British India.....	32,856	34,469	104.9	30,554	112.8
Japan.....	1,236	1,458	118.0	1,193	122.3
Tunis.....	1,310	1,513	115.5	1,353	111.8
Rye—					
Denmark.....	455	537	118.0	565	95.0
Spain.....	1,829	1,989	108.8	1,883	105.6
France.....	2,046	1,955	95.6	2,498	78.0
Luxemburg.....	17	16	94.8	25	63.8
United States.....	4,214	6,119	145.2	2,711	225.7
Barley—					
Spain.....	3,839	4,249	110.7	3,649	116.5
France.....	270	249	92.2	1,689	—
Japan.....	2,738	2,721	99.4	3,106	87.6
Tunis.....	1,038	1,504	144.9	1,162	129.4
Oats—					
Spain.....	1,168	1,506	128.9	1,347	111.8
France.....	1,608	1,612	106.4	8,502	—
Tunis.....	124	144	116.9	132	109.4

CONDITION OF CROPS IN NORTHERN HEMISPHERE.

Spain.—Frosts have not done much injury. Plentiful rains during the first half of April have favoured preparatory work for spring sowing, which has been carried out under good conditions.

France.—On the whole April was a cold and rainy month. In the latter half there were some falls of snow, chiefly on the higher ground, and frost occurred in the majority of the departments. This weather had the effect of somewhat delaying field work, more especially spring sowing and planting, and of hindering the development of vegetation. However, the winter cereal crops on the whole continue to look well, and even very well in some places. Spring sowing is in progress, and the appearance of the early plant is satisfactory. The area, particularly that under wheat, is in many departments much larger than it was last year. Potato planting is nearly finished in many places, while in some others it is going on. The area devoted to this crop is said to be a very large one.

Scotland.—The weather during April was cold and dry with easterly winds. The sowing of barley and oats was almost completed in favourable circumstances, and germination is regular. No serious attacks by insect pests or plant diseases are reported.

Ireland.—The cold, dry winds throughout April were unfavourable to growth, and the soil was very dry when some rain fell at the end of the month. All crops were looking well on May 1, especially winter wheat which is much more forward than at the same time last year. The sowing of flax has been everywhere completed. The crop was checked in growth by the cold, dry weather in April, but may be expected to grow vigorously with the recent rain.

Italy.—The rains which have fallen have been, generally speaking, very favourable, but in some provinces of northern Italy they were excessive, and too plentiful for the winter crops, while it has also been difficult to complete sowings of maize and rice. As regards the area under cereals, it is not yet possible to give exact figures. It is certain that almost everywhere there is more sown than last year, but the area will scarcely reach the average.

Egypt.—The crops on the whole were not adversely affected by the variable weather in March. Damage from rains was confined to low-lying lands. The water supply is plentiful. Early crops of wheat were ripening at the beginning of April and the general condition was satisfactory. At that period harvesting of barley had begun in Qena and Asvan.

Morocco.—March was somewhat rainy, especially in the coast region; but the downpours came so opportunely and were distributed so well that vegetation has gained the maximum of benefit. The outlook for the crops, which still caused some anxiety here and there up to the end of February on account of insufficient rain, are now very decidedly improved. All districts report good cereal crops in prospect, and these cannot now be injured except by the sirocco coming too early in the season. Taking into account the very large area sown in spring it may be affirmed that the total extent under crop in the present season will be greater than it was last year.

Tunis.—The drought, which prevailed during January and February in the northern and central districts of the Regency, was a source of anxiety to farmers. The plentiful rains which fell at the end of February and in March have, however, allowed sowing to proceed in favourable surroundings, and it is now completed nearly everywhere. The present appearance of the crops gives hope of a yield above the average.

CABLEGRAM OF JUNE 29, 1918.

A cablegram received from the International Institute of Agriculture on June 29 gives the following crop data: The wheat crop of India is estimated at 380,205,000 bushels compared with 379,402,000 in 1917 and 348,998,000 the average production of the five years 1912-16. The production of wheat in Tunis is estimated as 9,406,000 bushels against 6,963,000 last year, and a five-year average of 5,600,000.

Crop conditions on June 1st were very good in Ireland, good in France, Great Britain and Tunis, satisfactory in Holland and Sweden, and average in Switzerland and Egypt.

PRICES OF AGRICULTURAL PRODUCE, 1918.

I. Weekly Range of Prices per bushel of Canadian Grain at Winnipeg and Fort William, 1918.

(Furnished by the Board of Grain Commissioners for Canada, Fort William, Ont.).

Grain and Grade.	May 4.		May 11.		May 18.		May 25.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—								
No. 1 Nor.....	2 21	—	2 21	—	2 21	—	2 21	—
No. 2 Nor.....	2 18	—	2 18	—	2 18	—	2 18	—
No. 3 Nor.....	2 15	—	2 15	—	2 15	—	2 15	—
No. 4.....	2 08	—	2 08	—	2 08	—	2 08	—
No. 5.....	1 96	—	1 96	—	1 96	—	1 96	—
No. 6.....	1 87	—	1 87	—	1 87	—	1 87	—
Feed.....	1 77	—	1 78	—1 79	1 79	—	1 80	—
Oats—								
No. 2 C.W.....	0 85½—0 87		0 78½—0 83½		0 79½—0 84½		0 82½—0 87½	
No. 3 C.W.....	0 82½—0 83		0 75—0 79½		0 76½—0 80		0 79½—0 84½	
No. 1 Feed Ex.....	0 82½—0 83		0 75—0 79½		0 76½—0 80½		0 79½—0 94½	
No. 1 Feed.....	0 79½—0 80		0 72—0 76½		0 73½—0 77½		0 76½—0 81½	
No. 2 Feed.....	0 76½—0 77½		0 69—0 73½		0 70½—0 74½		0 73½—0 78½	
Barley—								
No. 3 C.W.....	1 50	—	1 40—1 50		1 40	—	1 30—1 51½	
No. 4 C.W.....	1 45	—	1 35—1 45		1 35	—	1 25—1 46½	
Rejected.....	1 20	—	1 10—1 20		1 10—1 11		1 14—1 23	
Feed.....	1 18	—	1 05—1 16		1 05—1 07		1 09—1 17	
Flax—								
No. 1 N.W C.....	3 71—3 80		3 70½—3 76		3 69½—3 77½		3 75½—3 86½	
No. 2 C.W.....	3 68—3 77		3 67½—3 73		3 66½—3 74½		3 72½—3 83½	
No. 3 C.W.....	3 46—3 55		3 45½—		3 44½—3 52½		3 50½—3 61½	

II. Monthly Range of Prices per bushel of Grain at Selected Markets in the United States, 1918.

(From the Monthly Report of the U.S. Department of Agriculture.)

Grade and Market.	February.		March.		April.		May.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat, Red Winter, No. 2—								
St. Louis.....	2 15	—	2 15	—	2 15	—	2 15	—
Chicago.....	2 17	—	2 17	—	2 17	—	2 17	—
New York (f.o.b. afloat).....	2 26	—	2 26	—	2 26	—	2 26	—
Corn, No. 2, mixed—								
St. Louis.....	—	—	1 60—1 90		1 68—1 70		1 52	1 53½
Corn No. 2—								
Chicago.....	1 75—1 80		1 65—1 75		1 60—1 65		1 55	1 60
Oats, No. 2—								
St. Louis.....	0 86½	—	0 86—0 95½		0 77½	—	0 70	0 82½
Chicago.....	0 80½—0 81½		0 84½—0 92½		0 78½	—	0 72	0 79½
Rye, No. 2—								
Chicago.....	2 10—2 18		2 72—2 95		2 60	—	1 30	2 60

III. Range of Prices of Imported Grain and Flour at British Markets, May, 1918.

MARK LANE.	May 6-27.		LIVERPOOL.	May 7-28.	
	\$ c.	\$ c.		\$ c.	\$ c.
Wheat (per bush.)—			Wheat (per bush.)—		
Canadian No. 1.....	2 42 $\frac{1}{2}$	—	Nor. Man. No. 1.....	2 38 $\frac{1}{2}$	—
“ No. 2.....	2 37 $\frac{1}{2}$	—	“ No. 4.....	2 20 $\frac{1}{2}$	—
“ No. 3.....	2 31	—	Hard Winter.....	2 34	—
“ No. 4.....	2 25	—	Red Winter.....	2 26 $\frac{1}{2}$	—
American—			Australian.....	2 49 $\frac{1}{2}$	—
Spring.....	2 35 $\frac{1}{2}$	2 38 $\frac{1}{2}$	Oatmeal (per 240 lb.)—		
Hard Winter.....	2 35 $\frac{1}{2}$	2 38 $\frac{1}{2}$	Canadian or American.....	16 79—17 03	
Red Winter.....	2 26 $\frac{1}{2}$	2 32 $\frac{1}{2}$	Canadian rolled oats.....	16 79—17 03	
Australian.....	2 51	—			
Indian.....	2 53 $\frac{1}{2}$	2 56	Flour (per 280 lb.)—		
Californian.....	2 47 $\frac{1}{2}$	2 50 $\frac{1}{2}$	Manitoba.....	12 41—12 59	
Argentine.....	2 44 $\frac{1}{2}$	2 47 $\frac{1}{2}$	Kansas.....	12 41—12 59	
Oats (per bush.)—					
Canadian.....	1 65 $\frac{1}{2}$	1 68			
American.....	1 57 $\frac{1}{2}$	1 60 $\frac{1}{2}$			
Flour (per 280 lb.)—					
Canadian.....	12 21—12 50				
American.....	12 21—12 50				

IV. Average Prices of British-grown Grain, 1918.

Week ended	Wheat.		Barley.		Oats.	
	per quarter.	per bushel.	per quarter.	per bushel.	per quarter.	per bushel.
	s. d.	\$ c.	s. d.	\$ c.	s. d.	\$ c.
May 4.....	73 5	2.233	56 5	1.716	47 4	1.440
“ 11.....	73 5	2.233	56 6	1.718	47 6	1.445
“ 18.....	73 4	2.231	56 6	1.718	46 4	1.409
“ 25.....	73 3	2.228	56 6	1.718	47 8	1.450
Average.....	73 4	2.231	56 6	1.718	47.3	1.436

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Vol. II, 1913. Religions, Origins, Birthplace, Citizenship, Literacy and Infirmities by Provinces, Districts and Subdistricts, with Introduction. Tables I-XLVI, pp. i-iv, 1-634.

Vol. III, 1913. Manufactures for 1910 as enumerated in June 1911, with Introduction. Tables I-XX, pp. i-xvi, 1-432.

Vol. IV, 1914. Agriculture with Introduction. Tables 1-90; I-XXXV, pp. i-xcv, 1-428. Diagrams, 5 pp. [Out of print.]

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REPORT OF THE CENSUS OF POPULATION AND AGRICULTURE OF THE PRAIRIE PROVINCES, 1916. January 12, 1918. Tables 1-54; I-XXVI, pp. i-lxvi, 1-356.

SPECIAL REPORT ON THE FOREIGN-BORN POPULATION. Abstracted from the Records of the Fifth Census of Canada. June, 1911. 23 tables. 62 pp. 1915.

REPORT OF THE POSTAL CENSUS OF MANUFACTURES, 1916. pp. i-xi; 1-263, 1917.

REPORT ON THE PRODUCTION OF CREAMERIES AND CHEESE FACTORIES, 1915 and 1916. pp. 1-24, 1917.

CRIMINAL STATISTICS. Annual Report for Year ended September 30, 1915. pp. i-xliv, 1-398.

CENSUS AND STATISTICS MONTHLY, Vols. 1-9, 1908-1916; Vol. 10, Nos. 101-103, 1917. MONTHLY BULLETIN OF AGRICULTURAL STATISTICS, Vols. 10 and 11, Nos. 104-118, 1917-18.

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VOL. 11

No. 119

DOMINION OF CANADA

DEPARTMENT OF TRADE AND COMMERCE

DOMINION BUREAU OF STATISTICS

Quarterly

MONTHLY BULLETIN

OF

AGRICULTURAL STATISTICS

July, 1918.

Published by Authority of the Right Hon. Sir George E. Foster,
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Printer to the King's Most Excellent Majesty

1918

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MONTHLY BULLETIN OF AGRICULTURAL STATISTICS

Vol. 11

OTTAWA, JULY, 1918.

No. 119

DOMINION STATISTICIAN: R. H. COATS, B.A., F.S.S. EDITOR: ERNEST H. GODFREY, F.S.S.
DOMINION BUREAU OF STATISTICS, DEPARTMENT OF TRADE AND COMMERCE,
OTTAWA, CANADA.

FIELD CROPS OF CANADA.

Report for the month ended June 30, 1918.

The Dominion Bureau of Statistics issued to-day the usual revised estimate of the areas sown to spring grains, an estimate of the areas under later sown cereals and hoed crops and the condition of grain crops on June 30, as compiled from the returns of Crop Correspondents.

AREAS UNDER PRINCIPAL GRAIN CROPS AND HAY.

For all crops, except peas, the estimate of areas sown to spring grains is less than it was a month ago, the decrease being caused by unfavourable weather conditions in the West. For wheat, the total area is now estimated at 15,838,000 acres, or 7 p.c. more than last year, spring wheat occupying 15,497,300 acres, or 10 p.c. more than last year and fall wheat 340,700 acres, or 53 p.c. less than last year. For oats, the area sown is now placed at 13,784,000 acres, or 4 p.c. more than last year; for barley the area is 2,403,750 acres and for rye 228,900 acres. Peas occupy 205,730 acres, mixed grains 501,400 acres, hay and clover 8,015,250 acres and alfalfa 102,900 acres. In the three Prairie Provinces the area sown to wheat is 14,964,000 acres, comprising 2,618,000 acres in Manitoba, 9,101,000 acres in Saskatchewan and 3,245,000 acres in Alberta.

LATER SOWN CEREALS AND HOED CROPS.

The estimated acreages of later sown cereals and hoed crops, as compared with 1917, are for all Canada as follows: Buckwheat 407,800 as against 395,977, flax 927,300 as against 919,500, corn for husking 213,400 as against 234,339, beans 105,560 as against 92,457, potatoes 686,300 as against 656,958, turnips, etc., 216,970 as against 218,233, sugar beets 13,200 as against 14,000 and corn for fodder 344,700 as against 366,518. The area under beans shows an increase of 14 p.c. and that under potatoes an increase of 4 p.c. The areas sown to both of these crops is the largest on record; the increase of beans is chiefly in Quebec and of potatoes in Quebec and in Alberta.

CONDITION OF GRAIN AND HAY CROPS.

In general, the condition of grain crops in the Atlantic provinces is not so good as it was this time last year, and there is also a slight falling off as compared with a month ago; but the prospects for good yields are fair. In Prince Edward Island the condition of wheat is

2 above, in Nova Scotia 1 below and in New Brunswick 1 above the decennial average. Oats are 2 points below average in Prince Edward Island and Nova Scotia, but 1 above average in New Brunswick. In Quebec conditions have gone back during June, but are still much more favourable than they were a year ago. Spring wheat is 103, oats are 101 and barley is 100. In Ontario fall wheat remains poor, being 70, or 30 p.c. below average, but spring wheat is 101. Oats and barley are equal to the average. In the Prairie Provinces drought and continuous high winds during June have caused serious damage to wheat crops, and large areas have had to be resown to other crops. In the northern parts of these three provinces, however, the rainfall has been sufficient, and conditions are fairly promising. For spring wheat the condition is expressed numerically by 88 in Manitoba, 85 in Saskatchewan and 83 in Alberta, i.e., 12 to 17 p.c. below average. Oats are 94 in Manitoba, 85 in Saskatchewan and 83 in Alberta, as compared with the decennial average represented by 100. In British Columbia, hot, dry weather in May and the early part of June retarded growth, and the condition of wheat is 10 and of oats 14 p.c. below average. Hay and clover crops are below average in all the provinces, being 91 in Quebec, 85 in Ontario, 77 in Manitoba, 86 in Saskatchewan and 76 in Alberta. For the whole of Canada the average condition is as follows, the corresponding figures for June 30 last year being given within brackets: Fall wheat 71 (75), spring wheat 86 (96), all wheat 85 (96), oats 91 (100), barley 93 (98), rye 89 (94), peas 99 (101), mixed grains 99 (102), hay and clover 87 (99), alfalfa 85 (97), pasture 88 (100).

Dominion Bureau of Statistics,
Ottawa, July 13, 1918.

ERNEST H. GODFREY,
Editor.

I. Revised Estimate of Areas under Field Crops in 1918, as compared with 1917.

Field Crops.	1917.	p.c. of 1917.	1918.	Field Crops.	1917.	p.c. of 1917.	1918.
	acres.	p.c.	acres.		acres.	p.c.	acres.
Canada—				Nova Scotia—			
Fall wheat....	725,300	47	340,700	Spring wheat..	16,200	107	17,300
Spring wheat..	14,030,550	110	15,497,300	Oats.....	123,000	106	130,000
All wheat...	14,755,850	107	15,838,000	Barley.....	4,800	101	4,850
Oats.....	13,313,400	104	13,784,000	Rye.....	300	100	300
Barley.....	2,392,200	100	2,403,750	Peas.....	170	98	170
Rye.....	211,880	108	228,900	Mixed grains..	4,000	101	4,030
Peas.....	198,881	103	205,730	Hay and clo-			
Mixed grains...	497,236	101	501,400	ver.....	542,000	98	531,000
Hay and clo-				New Brunswick—			
ver.....	8,225,034	97	8,015,250	Spring wheat..	16,000	141	22,600
Alfalfa.....	109,825	94	102,900	Oats.....	190,000	107	203,000
P. E. Island—				Barley.....	1,800	105	1,900
Spring wheat..	36,000	102	37,000	Peas.....	400	101	400
Oats.....	201,000	103	207,000	Mixed grains..	840	106	900
Barley.....	3,500	97	3,400	Hay and clo-			
Peas.....	60	97	60	ver.....	568,000	98	557,000
Mixed grains...	7,800	100	7,800	Quebec—			
Hay and clo-				Spring wheat..	277,400	122	338,000
ver.....	197,000	98	193,000	Oats.....	1,492,700	106	1,582,000

I. Revised Estimate of Areas under Field Crops in 1918, as compared with 1917—con.

Field Crops.	1917.	p.c. of 1917.	1918.	Field Crops.	1917.	p.c. of 1917.	1918.
	acres.	p.c.	acres.		acres.	p.c.	acres.
Quebec—con.				Saskatchewan—			
Barley.....	165,600	104	172,000	con.			
Rye.....	22,450	103	23,000	Oats.....	4,521,600	102	4,612,000
Peas.....	66,457	109	72,000	Barley.....	669,900	99	663,000
Mixed grains..	122,819	102	125,000	Rye.....	53,250	122	65,000
Hay and clo-				Peas.....	2,605	96	2,500
ver.....	2,961,983	97	2,879,000	Mixed grains..	39,500	100	39,500
Alfalfa.....	3,818	95	3,600	Hay and clo-			
Ontario—				ver.....	260,275	94	245,000
Fall wheat....	656,500	42	277,200	Alfalfa.....	9,500	79	7,500
Spring wheat..	113,000	140	158,000	Alberta—			
All wheat....	769,500	57	435,200	Fall wheat....	51,700	112	58,000
Oats.....	2,687,000	104	2,794,000	Spring wheat..	2,845,600	112	3,187,000
Barley.....	361,000	100	361,000	All wheat....	2,897,300	112	3,245,000
Rye.....	68,000	92	63,000	Oats.....	2,537,900	104	2,639,000
Peas.....	126,000	101	127,000	Barley.....	472,100	98	463,000
Mixed grains..	295,000	101	298,000	Rye.....	30,880	99	30,600
Hay and clo-				Peas.....	1,851	103	1,900
ver.....	2,998,000	98	2,938,000	Mixed grains..	24,027	96	23,000
Alfalfa.....	52,000	93	48,000	Hay and clo-			
Manitoba—				ver.....	493,522	95	469,000
Fall wheat....	3,860	52	2,000	Alfalfa.....	31,396	97	30,500
Spring wheat..	2,445,000	107	2,616,000	British Colum-			
All wheat....	2,448,860	107	2,618,000	bia—			
Oats.....	1,500,000	103	1,545,000	Fall wheat....	3,240	108	3,500
Barley.....	708,000	103	729,000	Spring wheat..	18,100	112	20,400
Rye.....	37,000	128	47,000	All wheat....	21,340	111	23,900
Mixed grains..	1,400	91	1,300	Oats.....	60,200	120	72,000
Hay and clo-				Barley.....	5,500	102	5,600
ver.....	75,000	99	74,000	Peas.....	1,338	125	1,700
Alfalfa.....	4,400	81	3,600	Mixed grains..	1,850	101	1,870
Saskatchewan—				Hay and clo-			
Spring wheat..	8,273,250	110	9,101,000	ver.....	129,254	100	129,250
				Alfalfa.....	8,681	112	9,700

II. Areas of Later Sown Cereals and Hoed Crops, 1917 and 1918.

Field Crops.	1917.	p.c. of 1917.	1918.	Field Crops.	1917.	p.c. of 1917.	1918.
	acres.	p.c.	acres.		acres.	p.c.	acres.
Canada—				Nova Scotia—			
Buckwheat.....	395,977	103	407,800	Buckwheat.....	10,900	100	10,900
Flax.....	919,500	101	927,300	Beans.....	1,000	123	1,200
Corn for husking..	234,339	91	213,400	Potatoes.....	41,000	104	42,600
Beans.....	92,457	114	105,560	Turnips, etc..	9,100	102	9,300
Potatoes.....	656,958	104	686,300	Corn for fodder...	480	95	450
Turnips, etc..	218,233	99	216,970	New Brunswick—			
Sugar beets.....	14,000	94	13,200	Buckwheat.....	57,000	109	62,100
Corn for fodder...	366,518	94	344,700	Beans.....	300	120	360
P. E. Island—				Potatoes.....	46,000	96	44,200
Buckwheat.....	2,500	104	2,600	Turnips, etc..	7,700	101	7,780
Potatoes.....	35,000	98	34,300	Corn for fodder...	85	91	80
Turnips, etc..	8,100	100	8,100	Quebec—			
Corn for fodder...	250	95	240	Buckwheat.....	163,577	105	171,800

45346—1½

II. Areas of Later Sown Cereals and Hoed Crops, 1917 and 1918—con.

Field Crops.	1917.	p.c. of 1917.	1918.	Field Crops.	1917.	p.c. of 1917.	1918.
	acres.	p.c.	acres.		acres.	p.c.	acres.
Quebec—con.				Manitoba—con.			
Corn for husking...	74,339	102	75,800	Potatoes.....	34,400	105	36,100
Beans.....	55,157	122	67,300	Turnips, etc.....	2,500	95	2,400
Flax.....	5,700	96	5,500	Corn for fodder....	9,800	85	8,300
Potatoes.....	226,917	106	240,500	Saskatchewan—			
Turnips, etc.....	70,192	103	72,300	Flax.....	753,700	96	724,000
Corn for fodder....	69,030	100	69,030	Potatoes.....	67,700	101	68,400
Ontario—				Turnips, etc.....	11,104	95	10,500
Buckwheat.....	162,000	99	160,400	Corn for fodder....	15,658	99	15,400
Corn for husking..	160,000	86	137,600	Alberta—			
Flax.....	4,000	103	4,100	Flax.....	139,800	123	172,000
Beans.....	36,000	102	36,700	Potatoes.....	48,917	126	61,600
Potatoes.....	142,000	101	143,400	Turnips, etc.....	10,947	99	10,800
Turnips, etc.....	94,000	97	91,200	Corn for fodder....	3,976	122	4,800
Sugar beets.....	14,000	94	13,200	British Columbia—			
Corn for fodder....	265,000	96	244,000	Potatoes.....	15,024	101	15,200
Manitoba—				Turnips, etc.....	4,590	100	4,590
Flax.....	16,300	133	21,700	Corn for fodder....	2,239	108	2,400

III. Condition of Field Crops on June 30, 1918, as compared with May 31, 1918, and June 30, 1917.

Field Crops.	June 30, 1917.	May 31, 1918.	June 30, 1918.	Field Crops.	June 30, 1917.	May 31, 1918.	June 30, 1918.
	p.c.	p.c.	p.c.		p.c.	p.c.	p.c.
Canada—				Nova Scotia—con.			
Fall wheat.....	88	75	71	Hay and clover.....	101	80	83
Spring wheat.....	96	96	86	Alfalfa.....	79	90	100
All wheat.....	95	96	85	Pasture.....	106	98	87
Oats.....	96	100	91	New Brunswick—			
Barley.....	97	98	93	Spring wheat.....	96	105	101
Rye.....	93	94	89	Oats.....	93	105	101
Peas.....	103	101	99	Barley.....	98	100	100
Mixed grains.....	103	102	99	Peas.....	106	104	100
Hay and clover....	106	99	87	Mixed grains.....	102	106	99
Alfalfa.....	102	97	85	Hay and clover....	116	107	93
Pasture.....	103	100	88	Pasture.....	111	106	95
P. E. Island—				Quebec—			
Spring wheat.....	101	103	102	Spring wheat.....	99	107	103
Oats.....	102	103	98	Oats.....	93	105	101
Barley.....	101	103	98	Barley.....	94	104	100
Peas.....	96	105	100	Rye.....	97	103	99
Mixed grains.....	102	105	98	Peas.....	101	104	103
Hay and clover....	102	107	94	Mixed grains.....	100	104	101
Pasture.....	102	104	96	Hay and clover....	118	104	91
Nova Scotia—				Alfalfa.....	120	95	97
Spring wheat.....	102	102	99	Pasture.....	108	104	94
Oats.....	104	101	98	Ontario—			
Barley.....	104	99	87	Fall wheat.....	83	74	70
Rye.....	108	101	95	Spring wheat.....	111	104	101
Peas.....	106	101	97	All wheat.....	100	84	81
Mixed grains.....	104	101	96	Oats.....	109	105	100

III. Condition of Field Crops on June 30, 1917 and 1918 and on May 31, 1918—con.

Field Crops.	June 30, 1917.	May 31, 1918.	June 31, 1918.	Field Crops.	June 30, 1917.	May 31, 1918.	June 30, 1918.
	p.c.	p.c.	p.c.		p.c.	p.c.	p.c.
Ontario—con.				Saskatchewan—con.			
Barley.....	107	104	100	Alfalfa.....	84	76	76
Rye.....	100	87	84	Pasture.....	92	95	81
Peas.....	106	100	98	Alberta—			
Mixed grains.....	108	102	102	Fall wheat.....	108	79	71
Hay and clover.....	112	100	85	Spring wheat.....	96	95	83
Alfalfa.....	107	103	92	All wheat.....	99	95	83
Pasture.....	114	101	93	Oats.....	90	94	83
Manitoba—				Barley.....	93	93	104
Fall wheat.....	122	93	93	Rye.....	96	99	89
Spring wheat.....	87	92	88	Peas.....	89	95	78
All wheat.....	87	92	88	Mixed grains.....	91	106	84
Oats.....	86	99	94	Hay and clover.....	105	90	76
Barley.....	90	99	92	Alfalfa.....	91	93	70
Rye.....	81	91	89	Pasture.....	98	88	74
Peas.....	105	90	95	British Columbia—			
Mixed grains.....	97	96	99	Fall wheat.....	94	96	90
Hay and clover.....	65	86	77	Spring wheat.....	109	99	90
Alfalfa.....	82	84	96	All wheat.....	97	98	90
Pasture.....	67	85	83	Oats.....	102	98	86
Saskatchewan—				Barley.....	99	98	93
Spring wheat.....	87	97	85	Rye.....	93	95	91
Oats.....	87	100	85	Peas.....	104	96	86
Barley.....	92	97	81	Mixed grains.....	100	95	93
Rye.....	93	97	89	Hay and clover.....	108	97	83
Peas.....	105	95	89	Alfalfa.....	90	96	91
Mixed grains.....	95	97	80	Pasture.....	111	93	82
Hay and clover.....	89	95	86				

NOTE.—100 represents the promise of a yield per acre equal to the average annual yield per acre of the ten years 1908-17.

INTERPRETATION OF CROP REPORTS.

In Table III the condition of crops at the end of June is expressed numerically according to a scale in which 100 represents the average annual yield per acre of the ten years 1908 to 1917. The figures expressing the condition for the whole of Canada are averages weighted according to the areas under each crop in each province. In Table IV the yields indicated by the condition are worked out by provinces and for Canada in bushels per acre and in total bushels. In column 2 is shown the average yield per acre for the ten years 1908-17, in column 3 the numerical condition on June 30, 1918, in percentage of the average yield per acre. Column 4 gives the resulting yield per acre as indicated by the condition, column 5 the acreage as estimated on June 30, 1918, and column 6 the total indicated yield, this being the acreage multiplied by the indicated yield per acre. The table shows that the total yield of wheat, according to its condition on June 30, is estimated at about 259½ million bushels and that of oats at about 450 million bushels. As the acreage is subject to revision

by the results of the annual collection of agricultural statistics throughout Canada, and as the condition fluctuates as the season advances, the yields given are only estimates of tentative character to be replaced as later and surer data become available. Table V gives similar calculations for the three Prairie Provinces.

IV. Yields of Field Crops in 1918, as indicated by Condition on June 30, 1918.

Field Crops.	Average yield per acre 1908-1917.	Condition on June 30, (100 = average yield per acre 1908-1917).	Yield per acre as indicated by condition.	Areas sown according to estimate of June 30.	Total yields as indicated by condition.
	bush.	p.c.	bush.	acres.	bush.
Canada—					
Fall wheat.....	23.00	71	16.00	340,700	5,471,500
Spring wheat.....	19.00	86	16.50	15,497,300	254,016,300
All wheat.....	19.25	85	16.50	15,838,000	259,487,800
Oats.....	35.25	91	32.75	13,784,000	450,036,000
Barley.....	27.00	93	25.00	2,403,750	60,225,600
Rye.....	18.25	89	17.00	228,900	3,893,400
Peas.....	16.50	99	16.25	205,730	3,324,300
Mixed grains.....	32.75	99	31.75	501,400	15,906,100
Hay and clover.....	1.50	87	1.25	8,015,250	10,129,900
Alfalfa.....	2.50	85	2.15	102,900	220,800
P. E. Island—					
Spring wheat.....	18.50	102	18.75	37,000	694,000
Oats.....	32.25	98	31.50	207,000	6,521,000
Barley.....	28.25	98	27.75	3,400	94,000
Peas.....	23.00	100	23.00	60	1,400
Mixed grains.....	40.25	98	39.50	7,800	308,000
Hay and clover.....	1.50	94	1.40	193,000	270,000
Nova Scotia—					
Spring wheat.....	19.25	99	19.00	17,300	329,000
Oats.....	31.25	98	30.50	130,000	3,965,000
Barley.....	26.75	87	23.25	4,850	113,000
Rye.....	17.75	95	16.75	300	5,000
Peas.....	24.25	97	23.50	170	4,000
Mixed grains.....	33.75	96	32.50	4,030	131,000
Hay and clover.....	1.75	83	1.45	531,000	770,000
New Brunswick—					
Spring wheat.....	17.75	101	18.00	22,600	407,000
Oats.....	28.25	101	28.50	203,000	5,786,000
Barley.....	25.75	100	25.75	1,900	49,000
Peas.....	17.75	100	17.75	400	7,100
Mixed grains.....	30.00	99	29.75	900	26,800
Hay and clover.....	1.25	93	1.15	557,000	640,600
Quebec—					
Spring wheat.....	15.75	103	16.25	338,000	5,493,000
Oats.....	26.25	101	26.50	1,582,000	41,923,000
Barley.....	22.75	100	22.75	172,000	3,913,000
Rye.....	16.00	99	15.75	23,000	362,300
Peas.....	14.75	103	15.25	72,000	1,098,000
Mixed grains.....	25.75	101	26.00	125,000	3,250,000
Hay and clover.....	1.25	91	1.25	2,879,000	3,599,000
Alfalfa.....	2.50	97	2.50	3,600	9,000
Ontario—					
Fall wheat.....	23.00	70	16.00	277,200	4,435,000
Spring wheat.....	18.25	101	18.50	158,000	2,923,000
All wheat.....	22.50	81	18.25	435,200	7,358,000
Oats.....	34.00	100	34.00	2,794,000	94,996,000
Barley.....	29.00	100	29.00	361,000	10,469,000

IV. Yields of Field Crops in 1918, as indicated by Condition on June 30, 1918—con.

Field Crops.	Average yield per acre 1908-1917.	Condition on June 30, (100 = average yield per acre 1908-1917).	Yield per acre as indicated by condition.	Areas sown according to estimate of June 30.	Total yields as indicated by condition.
	bush.	p.c.	bush.	acres.	bush.
Ontario—con.					
Rye.....	17.50	84	14.75	63,000	929,000
Peas.....	16.75	98	16.50	127,000	2,096,000
Mixed grains.....	34.50	102	35.25	298,000	10,505,000
Hay and clover.....	1.50	85	1.25	2,938,000	3,673,000
Alfalfa.....	2.50	92	2.25	48,000	108,000
Manitoba—					
Fall wheat.....	21.25	93	19.75	2,000	39,500
Spring wheat.....	17.75	88	15.50	2,616,000	40,548,000
All wheat.....	17.75	88	15.50	2,618,000	40,587,500
Oats.....	35.50	94	33.50	1,545,000	51,758,000
Barley.....	25.75	92	23.75	729,000	17,314,000
Rye.....	18.00	89	16.00	47,000	752,000
Mixed grains.....	31.25	95	29.75	1,300	38,700
Hay and clover.....	1.50	77	1.25	74,000	92,500
Alfalfa.....	2.25	96	2.25	3,600	8,100
Saskatchewan—					
Spring wheat.....	18.50	85	15.75	9,101,000	143,341,000
Oats.....	38.25	85	32.50	4,612,000	149,890,000
Barley.....	26.75	81	21.75	663,000	14,420,000
Rye.....	20.75	89	18.50	65,000	1,202,500
Peas.....	21.75	89	19.50	2,500	48,800
Mixed grains.....	32.25	80	25.75	39,500	1,017,000
Hay and clover.....	1.50	86	1.25	245,000	306,300
Alfalfa.....	2.00	76	1.50	7,500	11,300
Alberta—					
Fall wheat.....	22.00	71	15.50	58,000	899,000
Spring wheat.....	22.50	83	18.75	3,187,000	59,756,000
All wheat.....	22.50	83	18.75	3,245,000	60,655,000
Oats.....	42.00	83	34.75	2,639,000	91,705,000
Barley.....	28.25	104	29.50	463,000	13,659,000
Rye.....	23.50	89	21.00	30,600	642,600
Peas.....	17.75	78	13.75	1,900	26,100
Mixed grains.....	28.50	84	24.00	23,000	552,000
Hay and clover.....	1.50	76	1.15	469,000	539,400
Alfalfa.....	2.50	70	1.75	30,500	53,400
British Columbia—					
Fall wheat.....	31.00	90	28.00	3,500	98,000
Spring wheat.....	28.75	90	25.75	20,400	525,300
All wheat.....	29.50	90	26.50	23,900	623,300
Oats.....	56.50	86	48.50	72,000	3,492,000
Barley.....	37.25	93	34.75	5,600	194,600
Peas.....	29.25	86	25.25	1,700	42,900
Mixed grains.....	44.50	93	41.50	1,870	77,600
Hay and clover.....	2.25	83	1.85	129,250	239,100
Alfalfa.....	3.50	91	3.20	9,700	31,000

V. Yields of Field Crops in the Prairie Provinces, 1918, as indicated by Condition on June 30, 1918.

Field Crops.	Average yield per acre 1908-17.	Condition on June 30 (100 = average yield per acre 1908-17).	Yield per acre as indicated by condition.	Acreage 1917.	Per cent of 1917	Acreage 1918.	Total yield as indicated by condition.
	bush.	p.c.	bush.	acres.	p.c.	acres.	bush.
Prairie Provinces—							
Wheat.....	18.25	85	16.25	13,619,410	110	14,964,000	244,583,500
Oats.....	38.50	87	33.25	8,559,500	103	8,796,000	293,353,000
Barley.....	26.50	91	24.50	1,850,000	100	1,855,000	45,393,000
Rye.....	21.25	89	18.25	121,130	118	142,600	2,597,100
Manitoba—							
Wheat.....	17.75	88	15.50	2,448,860	107	2,618,000	40,587,500
Oats.....	35.50	94	33.50	1,500,000	103	1,545,000	51,758,000
Barley.....	25.75	92	23.75	708,000	103	729,000	17,314,000
Rye.....	18.00	89	16.00	37,000	128	47,000	752,000
Saskatchewan—							
Wheat.....	18.50	85	15.75	8,273,250	110	9,101,000	143,341,000
Oats.....	38.25	85	32.50	4,521,600	102	4,612,000	149,890,000
Barley.....	26.75	81	21.75	669,900	99	663,000	14,420,000
Rye.....	20.75	89	18.50	53,250	122	65,000	1,202,500
Alberta—							
Wheat.....	22.50	83	18.75	2,897,300	112	3,245,000	60,655,000
Oats.....	42.00	83	34.75	2,537,900	104	2,639,000	91,705,000
Barley.....	28.25	104	29.50	472,100	98	463,000	13,659,000
Rye.....	23.50	89	21.00	30,880	99	30,600	642,600

CROP REPORTS FROM THE PROVINCES.

Prince Edward Island.—All grains, although behind for the time of year, look very promising for a full crop. Sowing, on account of severe weather, was later than usual. The hay crop is in excellent condition; pasture lands look well. Frosts blackened early beans and potatoes. Potato beetles and cutworms are very prevalent. Small fruits and garden vegetables suffered from extreme weather conditions. Favourable rains have fallen recently, and prospects are good for most crops.

Nova Scotia.—Severe frosts followed by dry, cold weather during the latter part of May and June have retarded the growth of all crops. A larger acreage of cereal crops has been sown this year, but growth, while sturdy and healthy in appearance, is slow. The hay crop is not promising. Roots, corn and potatoes were badly damaged by frosts. Prospects are fairly good for small fruits and garden vegetables. Pasture lands were winter-killed, and growth is slow. Rain is sorely needed in all parts of the province.

New Brunswick.—Vegetation has been slow, owing to drought and severe frosts, but crops are a good colour and with favourable weather should give an abundant harvest. Wheat and other grains are growing rapidly. Hay and other grasses show prospects of an average yield. Fields and pastures are doing well. Frost on June 21

damaged small fruits and garden vegetables. Grubs have caused considerable damage to potatoes and beans. Labour is scarce.

Quebec.—At the beginning of June vegetation was in advance of most years, but in almost all districts the continued cool weather and the too frequent rains have greatly retarded all growth. A few correspondents however complain of dry weather. Especially severe frosts were experienced in practically all parts of the province on the nights of June 17, 18, 19 and 20. Beans suffered more than any other crop, and a great many will be useless; but potatoes, tomatoes, tobacco, all tender garden stuff and even some grains, especially early sown buckwheat, were badly damaged. In many places beans were resown to buckwheat, and early sown buckwheat and gardens were also resown in a number of districts. The cereal crops, although somewhat backward owing to the cold weather and frosts, have a fine appearance, and in sheltered parts are beginning to ripen. Newly sown pasture are doing very well, but hay and clover on the whole are not very good, and are very late owing to the late, wet spring, which also caused the seeding in many places to be delayed. Many fruit trees were killed by the severe winter, while others which flowered well do not seem to be bearing much fruit. Small fruits were injured by the frosts. All the live stock are doing very well. If warm weather continues a good grain crop may be looked for, and other crops will be at least as good as those of last year.

Ontario.—Severe frosts during May and June retarded the growth of all spring crops, but with favourable weather, prospects are good. It is reported that spring wheat is in good condition and growing rapidly, but fall wheat and rye are very poor. Oats and barley promise well. Corn for silage is very backward. Hay is very short and light, and only an average crop can be expected. In some districts a considerable quantity of buckwheat has been sown. All kinds of roots and also potatoes promise well, but the scarcity of labour has resulted in the poor cultivation of these crops. Turnip fly, cutworm and wireworms are exceptionally bad. Fruits of all kinds reported medium. Gooseberries, currants and plums are very poor. Pastures have been fairly good.

Manitoba.—The weather of June was hot and cold by turns with high winds and a lack of rain, except in the more easterly and northern districts. Considerable areas had to be resown to barley and oats where seed was blown out. Wheat was short in stalk and turning yellow for lack of rain in the dry districts, but in fair condition where rains had fallen. Many districts report serious damage from cutworms.

Saskatchewan.—June was marked by an almost complete lack of rain, except in the extreme north and by continuous high winds which did serious damage. As the soil was so dry a great deal of drifting occurred, laying seed bare in some places and smothering it in others. This, combined with the frosts of May and the ravages of cutworms, has resulted in a poor condition of all grains in the dry areas. In many districts, however, rains were beginning to fall and hopes were

expressed that a fair yield might yet be realized. Pasture and hay were showing poor growth.

Alberta.—Everywhere in the province, except in the extreme north, rains were badly needed and the condition of the grain was critical, all growth being at a standstill. High winds did great injury on light lands. The grain on well prepared summer fallow was standing the drought fairly well, but it too needed more moisture. Grasses are poor. Cutworms were destroying gardens.

British Columbia.—The very hot weather during May and the early part of June retarded the growth of the grain and reduced the prospects somewhat. Towards the end of June, in many districts, there was more or less rain, which greatly benefited the crops. Still more rain is required. In some districts the wheat and oats are already headed, but require good weather to fill in. Hay and clover suffered from drought, but owing to the heavy rains in the latter part of June, appear above average. Cutworms, cabbage worms, tent caterpillars and gophers have damaged the vegetable gardens and slightly affected the wheat. Mangolds, turnips and carrots are irregular, but will doubtless improve with rain. There promise to be a good crop of apples and a fair crop of plums, but cherries are light.

TELEGRAPHIC CROP REPORTS.

A summary of telegraphic crop reports, received on the condition of field crops throughout Canada at the end of June, was issued on July 3 by the Dominion Bureau of Statistics as follows:

Atlantic Provinces.—In PRINCE EDWARD ISLAND splendid growing weather has assured an excellent hay crop. Grain and potatoes are well up to the average. Frost on 20th and 21st damaged beans, tomatoes and early potatoes in some sections. Roots and corn are making good growth. In NOVA SCOTIA (Kentville) June has been cool and very dry. Frost on the 21st reduced bean crop 15 p.c. Corn has made inferior growth. Grain and roots looking well. Hay very poor, about 40 p.c. of normal. Apples a fair crop—about half a million barrels. In NEW BRUNSWICK (St. John), excepting local frost in some sections which damaged beans and potatoes, June has given favourable weather for seeding and growth of crops. More grain has been seeded than usual. The hay yield will be large. Pastures are excellent and dairy production good.

Quebec.—BONAVENTURE: General growth medium. Hay fine. Eighty p.c. of grain has germinated well. Frost caused damage to beans and other vegetables. Much rain and temperature cool. STE. ANNE DE LA POCAITIÈRE: Hay will give an average crop. Wheat is good on drained land, but rather backward on the whole. Other grain only fair and rather late. Potatoes are promising on dry land. CAP ROUGE: Meadows and pastures look very well. Grain and silage corn are suffering from excess of precipitation and lack of heat. Potatoes are good on high land and poor on low spots. Swedes are coming up nicely. ACTONVALE: Gardens injured by recent frosts. Cereals have good appearance. New prairie hay good; prairie hay over two years, medium. Pasturage very good. Cold weather to date greatly hindered development of vegetables and hay. MAKAMIK: Hay suffered from winter killing. The condition of cereals is very good, but growth late. Potatoes are late coming out. SHAWVILLE: Crop conditions fair; wheat and peas good; oats and corn backward. Some spots touched with frost; hay crop very thin, but improving rapidly with recent rains. Root crops and potatoes fair; beans doing well, but late.

Ontario.—OTTAWA AND DISTRICT: Hay is poor to fair. Of wheat, which is little grown, the crop is only fair. Oats promise well. Corn for silage is very backward. This crop is also poor in southwestern Ontario, owing to bad seed which failed to come up. All kinds of roots and also potatoes promise well. Pasture has been good on the whole.

Manitoba.—BRANDON: June very dry with hot winds. Crop prospects poor.

Saskatchewan.—The Provincial Department of Agriculture reports (June 25) that while the whole province has more or less been affected by the recent drought, the crop

in no district is entirely ruined. Rains throughout the province have proved beneficial, arriving just in time in many districts to save the situation. **INDIAN HEAD:** The early part of June was dry, accompanied by hot winds which retarded growth to a considerable extent. However during the past week rain fell on the 24th, 25th and 27th. This with cool, cloudy weather has greatly improved crop conditions, and prospects at present are for a fair average crop. **SCOTT:** Owing to drought, late sown grain has failed to germinate. Early sown oats have been frozen off badly. Rain must come immediately if any crop is to be harvested in the prairie section. Conditions more favourable in northern part of district.

Alberta.—The Provincial Department of Agriculture reports that during the past month growing conditions have been somewhat irregular. In the early portion growth was hindered by cool weather and lack of moisture with strong winds in a few districts. Warmer weather prevailed after the tenth with light showers. Crops injured from early frosts, but recovered rapidly as weather became warmer. Good growing weather after middle of month, and all crops, excepting in a small area where more rain is needed, progressed very favourably. While conditions have not been ideal, an average crop over a very large portion of the province is assured. Hay however will be shorter than usual, but there is a good promise of an extra yield of vegetables. Warm weather and frequent showers during past week have greatly brightened outlook for the harvest. **LACOMBE:** First three weeks of June were windy, warm and dry. Early sown crops made slow growth, being delayed by insufficient moisture, and in certain areas by drifting sand. During last week rain fell over greater portion of central Alberta supplying immediate needs of grain crops. Hay will be light.

British Columbia.—**AGASSIZ:** Weather conditions during June decidedly unfavourable for growing crops. Cereals, roots, hay and pasture badly in need of moisture. Live stock in fair condition. **SUMMERLAND:** June drop in all fruits very heavy. Present indications show only medium crop in apples, pears, plums and apricots. Peaches on trees well attended to have good crops. Hay crop will be short. Grain will be light under dry farming. Season very dry and getting hotter. **SIDNEY, V.I.:** Drought conditions continued during the month. Hay, averaging one ton per acre, has been harvested in good condition. Autumn wheat fair. Spring grains short. Small fruits, vegetables, roots and potatoes will yield low. Orchard fruits fair. Rain needed.

CROP REPORTS OF PROVINCIAL GOVERNMENTS.

Ontario.—The Ontario Department of Agriculture reported (July 1) that live stock generally were in fine condition, as there had been an abundance of grass. A larger number of calves were being raised this year. Very few beef animals were changing hands, taking the province over, but Lambton reported fat cattle as moving freely, cars being loaded at local points. Dairy values were being fully maintained. Milch cows brought from \$100 to \$150. Frontenac quoted milk at \$2.25 a cwt., cheese at 22 1-16 cents per lb., and butter at from 43 to 45 cents per lb.. Hogs were selling at from \$17.50 to \$18 a cwt. Little pigs ranged from \$10 to \$16 a pair. Durham reported that sheep were rapidly increasing in that county. On July 8 it was reported that fall wheat, although badly thinned out by the trying weather of March and April, was giving promise of a good quality of grain for seed. All spring grains look well, although perhaps a little short in the straw. The present excellent appearance of beans was giving much satisfaction to growers. Peas have not looked so well for years. Norfolk reported that some raised for factory purposes had vines from four to five feet in length covered with blossoms. The report of July 15 stated that rain during the last week interfered somewhat with haying, but on the whole the crop was being harvested under favourable circumstances. Many farmers in the Lake Erie district were already through with cutting, but a considerable amount yet remained to be done elsewhere. The average yield was likely to be only moderate. Timothy was lacking in length. Alsike was

unusually heavy in blossom. The second growth of alfalfa was showing up very well, and there was promise of a good yield of seed. Ontario county reported that a number of farmers were sowing rape to supplement pasture. Fall wheat and barley were being cut in Essex, and harvesting there would be common next week. The fall wheat that had survived the winter was said to be of excellent quality. Complaints of smut in barley come from several counties. Oats were heading out and gave good promise. All the grain crops, however, were rather short in straw owing to the unusually cool weather in June delaying growth. Peas never looked better, and beans, of which there was a large acreage, although a little backward in growth, were from present appearances likely to be a record crop should favourable weather ensue. An unusually large acreage of buckwheat had been put in lately, and the seeding had made a good catch. Corn was behind in growth, but a few weeks of warm weather would rush it along. There was more anxiety in the eastern or silo sections regarding this crop than in the more western or husking counties. Potatoes looked well on the whole, although complaints of blackleg and other diseases come in from Middlesex.

Saskatchewan.—The following telegrams have been received from the Saskatchewan Department of Agriculture: July 9. "A general cry is sounded throughout the province of the great need for more rain. In many sections wheat is headed out, but is very short and not more than half a crop is anticipated. Conditions are better in the northwestern and northeastern districts, and prospects are excellent for good yields. In the southwestern and southeastern districts crops are nearly ruined, a few points reporting better prospects than the majority." July 22. "Reports received indicate conditions improved in many parts of province. Northern districts report crops well up to average. Heavy rains at Saskatoon greatly improved crop conditions. Heavy rains at Windthorst on Saturday and Sunday have made a fair crop possible with favourable weather. Rain was reported at Swift Current. Crops in southwestern districts almost total failure."

Alberta.—During July the Alberta Department of Agriculture telegraphed as follows: July 6. "While the grain crops of the whole of the province, with the exception of the Edmonton, Peace River and Grand Prairie districts have been seriously affected by the lack of moisture, the reports received indicate that recent rains covering most of the province have helped the general situation. The country adjacent to the foot hills extending from fifty to two hundred and fifty miles east will have a fair crop, particularly toward the central and northern portion of the province. Fortunately there has been sufficient rain in this area, except in the extreme south, to ensure plenty of wild hay, and with the recent rains over the remainder of the province it may reasonably be expected that there will be sufficient pasturage to carry the stock on their home ranges. The hay crop is exceedingly short in the area affected by drought; hail has not done any particular damage and the damage from cutworms has been

confined very largely to gardens, although in a few districts in the central part large fields of grain have been destroyed. This damage however cannot be considered serious from the standpoint of the general crop situation." July 13. "Crop conditions during the past week have improved generally throughout the province. Present prospects indicate that there will be a splendid crop in the Edmonton and northern districts. Conditions elsewhere have somewhat improved. This week's reports show that there will be a sufficient roughage for livestock in a great many places. The agricultural representatives sent out by the Department have been successful in finding large quantities and a great deal of available pasturage."

SUGGESTIONS OF CROP CORRESPONDENTS.

Soil Drifting.—High west winds have been the ruling factor to the detriment of agriculture in this district this spring. In most cases the usual old-fashioned method was followed, and the crop was sown on land ploughed four to five inches deep and then harrowed two, three or four times as the case might be. Results showed that the more harrowing that was done, the more soil drifting ensued, and in some places the crop is cut so badly with drifting soil that it will be a total failure, especially on the tops of knolls where the harrows did most effective work. In cases where only the harrows were used the poorest cultivation is much the best crop so far. In cases where the ploughing was packed each day by a surface packer when the soil was still moist and this followed as soon as possible afterwards by Mr. Seager Wheeler's plank drag, the soil drifting was nil, and the moisture was only from one to two inches below the surface. This land was solid and moist, and the seed sprouted three or four days after it was planted and is now a strong, healthy crop which never had a set-back. The importance of this plank drag which I have mentioned cannot be too well emphasized and brought before the public notice as one of the best implements on the farm, even although it is cheap and only costs a few dollars to make.—ROBERT RANNIE, Silverton, Man.

Rape on Summer Fallow.—I have sown Essex rape on summer fallow with good results. I plough and harrow the land, let it lie two weeks, then harrow, then roll, then sow the rape seed, then harrow with a very light harrow. The roots do the land good, the leaves spread over the land and prevent weeds growing; it provides food for stock at a time when other food is short.—EDWIN JACOB, Saltcoats, Sask.

Wild Oats.—There was a formula exploited about three years ago for the eradication of wild oats which advocated skim ploughing in the fall, followed by packer and harrows on all land intended for summer fallow the following season. I have followed this formula for two years, but each year I have left part of the field unploughed till the following spring, when it was ploughed as early as the team could go on the land. This experiment showed me that the part of

the field ploughed in the spring came up a solid mat of green wild oats before the end of May, while the rest of the field which was ploughed in the fall did not germinate freely until July and was not then as thick and vigorous as the spring ploughing. I plough the second time about the first week of June and follow with packer and drag, after which the duck foot cultivator will keep all weeds in check till freeze up. This goes to show that the wild oat will not germinate freely the same season that it is grown and that best results can be obtained by ploughing the summer fallow the first time before seeding is started.—ROBERT S. RANNIE, Silvertown, Man.

Cutworms.—I wish to call attention to the destruction caused by cutworms which I think to a great extent can be avoided if proper care be taken. I have noticed in my district that the badly infested fields occur where summer fallowing in the previous year was poorly done or when the season was too far advanced when it was done. In both cases the land was not properly cultivated, and the weeds were not kept down after the fallow was ploughed. Another prolific breeding place I find in the edges of fields where grass and weeds are allowed to grow. In regard to the latter, I believe I have a good idea as practised by one farmer in this district. He seeds down to grass a strip around each field, this he mows for hay; this plan has other advantages as well. It leaves a field opened up for harvest and consequently there need be no grain knocked down and ruined by the binder and horses tramping it down the first round with the binder. One also always has a permanent headland to turn on with the plough.—T. H. WARD, Roblin, Man.

Spittle Insect or Frog Hopper.—Mr PETER GARVIE of Tara, North Grey, Ont., having made inquiries respecting this insect which he found to be very prevalent in his district, the matter was referred to the Dominion Entomologist, and the following reply was sent by Mr. Arthur Gibson, Chief Assistant Entomologist: "The insect which causes this froth-like deposit is known as the Spittle Insect or Frog-hopper. These insects have not, of course, any connection with frogs. When they are in their adult state they have the habit of hopping, and the name frog-hopper probably originated owing to the fact that the froth called frog spittle was supposed to be voided by tree frogs from their mouths. While the insect is in the mass of froth on the stems of grasses, etc., it is in an immature condition, but on developing wings it leaves such location and wanders about on the leaves of trees, etc. The froth is supposed to consist of sap which the insect has pumped from the plant by means of its beak and passed through the alimentary canal. These insects are very often abundant in years when the growth of the plants is luxuriant, and in such years, therefore, on the whole the injury is not considered to be of a very serious nature."

INFLUENCE OF THE WEATHER UPON THE GROWTH OF SPRING WHEAT.

The accompanying table presents the data collected during June from Crop Correspondents in continuation of the records published in the Bulletin of May 1918, p. 136, and in that of June, 1918, p. 171. There are, it will be noticed, only a few records of appearance above ground in June, these being chiefly in the Maritime provinces and in Quebec during the first two weeks of the month. Heading is shown to be beginning during the last two weeks of June.

Dates of Appearance above Ground, Heading and Flowering of Spring Wheat, 1918.

Province and District.	Appearance Above Ground.				Heading.				Flowering Stage.		
	No. of re-plies.	June 1-7.	June 8-14.	June 15-21.	No. of re-plies.	June 1-7.	June 15-21.	June 22-30.	No. of re-plies.	June 15-21.	June 22-30.
Prince Edward land.....	5	4	1	-	-	-	-	-	-	-	-
Nova Scotia.....	17	12	4	1	1	1	-	-	-	-	-
New Brunswick.....	5	4	1	-	-	-	-	-	-	-	-
Quebec.....	12	7	3	2	3	-	-	3	-	-	-
East Ontario.....	-	-	-	-	3	-	-	3	1	-	1
Central Ontario.....	-	-	-	-	4	-	1	3	1	-	1
South Ontario.....	2	1	1	-	7	-	1	6	3	-	3
West Ontario.....	-	-	-	-	4	-	-	4	-	-	-
North Ontario.....	3	1	1	1	-	-	-	-	-	-	-
North Manitoba.....	1	1	-	-	-	-	-	-	-	-	-
South Manitoba.....	-	-	-	-	1	-	-	1	-	-	-
North Saskatchewan.....	-	-	-	-	1	-	-	1	-	-	-
South Saskatchewan.....	-	-	-	-	3	-	1	2	-	-	-
North Alberta.....	-	-	-	-	3	-	-	3	-	-	-
South Alberta.....	-	-	-	-	4	-	-	4	-	-	-
British Columbia.....	1	1	-	-	12	-	4	8	2	1	1

In addition, and not included in the table, are seven records of attainment of the flowering stage during June, viz., one in eastern, one in central and three in southern Ontario during the week June 22-30 and two in British Columbia, one during the week June 15-21 and the other during the week June 22-30. There were also five records of sowing during June, viz., one in Quebec on June 3, one in Nova Scotia on June 1 and three in Nova Scotia on June 2.

DOMINION EXPERIMENTAL FARMS AND STATIONS.

Central Farm, Ottawa.—With the exception of two brief spells, namely, the two first and the last five days of the month, the weather during June has been cooler and rather wetter than usual. The highest temperature recorded is 89.8, the lowest 36.6 and the mean 61.79, compared with a maximum of 85.1, a minimum of 36.8 and

a mean of 63·2 a year ago. The precipitation totals 3·13 inches, the heaviest fall in twenty-four hours being one of 1·23 inch on the 12th, while a year ago the rainfall amounted to 2·58 inches, when the heaviest fall was 0·92 of an inch, registered on June 11th, 1917. The bright sunshine averages 9·76 hours a day as against only 7·42 hours a day for this time last year.

Oats continue to look promising and should give a good return. All hoed crops have done well, with the exception of Indian corn, the growth of the latter having been retarded to a considerable extent by the cool weather which has prevailed. Hay is not so promising as it was in the latter part of May and will be a light crop.

Charlottetown, P.E.I.—J. A. Clark, Superintendent, reports:—"During the first week of June there were local showers, which started the grass along nicely. Beans, corn and the balance of the potatoes were all planted before the close of the week. The second week was cool, with thunder storms, which continued during the third week. Frosts on the 20th and 21st injured potatoes, tomatoes, beans and corn generally. The last week has been somewhat warmer, but dull, so that the hay crop will be somewhat lighter than was expected, and will be below the average generally in the country, though a heavy crop at the Station is assured. Grain has come on well, and looks very promising. Potatoes, though injured somewhat by the frost, have come on splendidly, and at present are quite up to the average. Roots and late corn which escaped the frost, have germinated well, and, at the present time, give promise of a full crop. Strawberries are just coming in, and do not seem to have suffered severely from the low temperature. The large fruit trees had quite a heavy bloom and the fruit had set before the cool spell occurred. The mangold and turnip stecklings, which wintered over in apparently good condition, when set out were attacked by crown rot, which will greatly lessen the crop of seed. The hens have continued to lay well, and the young chicks, numbering about nine hundred, are growing well, and should afford an excellent opportunity of selecting good stock for the breeding pens next autumn."

Kentville, N.S.—W. S. Blair, Superintendent, reports:—"June has been a bright month throughout, there being only four days without bright sun. The temperature has been low, there not being sufficient heat to bring corn and beans on rapidly. There was a frost in many sections of the Annapolis Valley on the morning of the 21st and much damage was done to beans, potatoes and corn. There was a rain of 0·98 of an inch on the 13th and another of 0·50 of an inch on the 23rd, with light showers on the 1st, 2nd, 4th, 8th, 17th and 18th, the whole precipitation aggregating 2·30 inches. The previous month having been exceptionally dry, this precipitation was not sufficient to carry crops in good condition, and at the end of June all crops are suffering very much from drought. Hay is very poor and present indications point to about 50 p.c. of a normal crop. Grains and roots are looking well, and, with rains early in July, should give normal yields. Potatoes are making good growth, except

where injured by frost, which has set them back considerably. About 15 p.c. of the bean area planted has been killed by frost. Corn has made very inferior growth. Apples will be a fair crop,—about one-half million barrels. The prospects are that apples will be quite free from scab, and that the bulk of the fruit will be of marketable quality.”

Nappan, N.S.—W. W. Baird, Superintendent, reports:—“Cool weather has been experienced throughout June. The first week was fine, with a maximum temperature of 80. From the 8th to the 15th was showery, with only three fine days during that period, and a heavy thunder storm on the night of the 12th. Two degrees of frost were experienced on the night of the 20th, doing considerable damage in gardens throughout the neighbourhood. The remainder of the month has been fine and somewhat warmer. Much farm work has been accomplished. Stecklings planted for seed purposes are making good growth and doing well. Potatoes were planted on the 8th. Some work, such as hauling gravel and clay and building up roads, has been done on the public highway. Prisoners of war have been employed on various parts of the farm throughout the month. All live stock at this Farm are in good condition and doing nicely. Work engaging attention during the month, other than caring for live stock, poultry and bees, has included ploughing, harrowing, cultivating, planting, hauling and spreading manure, pruning, tending hot-beds, spraying, mowing lawns, and cleaning up in general.”

Fredericton, N.B.—W. W. Hubbard, Superintendent, reports:—“June with a mean temperature of 57·4 is nearly four degrees below the average, and although the minimum temperature at this Station is 34 recorded on the 22nd, there were killing frosts in some localities on the 5th, 11th, 19th, 21st and 22nd. The warmest spell was during the first week, with a maximum of 86. The precipitation, 3·06 inches, is less than half of that of June of last year and slightly below the average for this month, and the sunshine 218·6 hours, is slightly above the average of the last forty-four years. All cereal and root crops have made splendid growth. At the end of the month, fall rye at the Station stands from five to six feet in height. Except on very dry land, grass is good, and, as potatoes were largely planted to escape the effects of frost, they are very promising. Beans where frost struck have been destroyed. Crops have all been seeded under most favourable conditions, and the area under cultivation is undoubtedly above the average. Pastures have been good, and dairy production is larger than for some years.”

Ste. Anne de la Pocatière, Que.—Jos. Begin, Superintendent, reports:—“June has been exceedingly unsettled and unusually dark,—the highest temperature being 80·6, the lowest 33 and the mean temperature of 54·8, compared with extremes of 81·2 and 35 and a mean temperature of 54·6 for the same month last year. The precipitation totals 5·13 inches, distributed over twelve different days, while the rainfall a year ago was 7·68 inches, distributed over

thirteen different days. The bright sunshine averages but 5.61 hours a day, compared with 7.46 hours a day for the same month last year. Only on gravelly and sandy soils could the rain be considered beneficial, as the heavier land was already well saturated with water, while seeding operations became very difficult, due to the fact that the land was not fit for cultivation. The cereal acreage is about that of last year, but would have been much larger had the weather conditions been more favourable for seeding operations. The growing grain is suffering from too much moisture, and it is feared the crop on low, clay land will be considerably reduced. Hay promises to be an average crop, the pastures are rather poor. Indian corn and mangolds are making a very poor start, owing to the cool weather. In this section, damage was done on the 18th to potatoes and tender garden plants".

Cap Rouge, Que.—G. A. Langelier, Superintendent, reports:—"June has been colder, wetter and brighter than the average for the corresponding month for the past six years, the mean temperature being, respectively, 56.76 and 58.56, precipitation 6.77 and 4.24 inches, and the hours of sunshine 210.9 and 199.3. Meadows and pastures are excellent; but grain and ensilage corn are suffering from the cold weather and the excess of rain. Potatoes are good on high land and poor on low spots. Swedes are coming up nicely. The prospects for tree fruits are medium and for small fruits very good. At the Station, a great deal of work has been put on weeds (including the forking out of quack from spots in the orchards where the cultivator could not get at it); to cutting annuals along roads and fences before they come to seed; and to cultivating hoed crops. Over twelve acres have been sown to swedes for seed production. The nine French Canadian mares which were bred last year have dropped their foals, which are all doing well."

Lennoxville, Que.—J. A. McClary, Superintendent, reports:—"The highest temperature recorded during June is 83, the lowest 31, and the mean 55.63, compared with extremes of 84 and 40 and a mean temperature of 60.21 a year ago. The precipitation amounts to 4.41 inches, compared with 7.38 inches a year ago. The sunshine totals 193.3 hours, compared with 174.3 hours in 1917. Frost was experienced on the nights of the 19th, 20th and 21st, causing considerable damage to vegetables, beans and potatoes in many localities. The hay crop is below the average this year. Grain is looking promising, but corn is backward and small, on account of low temperature and poor seed. Potatoes and roots promise average yields."

Brandon, Man.—M. W. McKillican, Superintendent, reports:—"June has been a very unfavourable month for crops in a large portion of Manitoba. It has been very dry, with much high wind, and, at times, extreme heat. On June 10th, a maximum temperature of 101 was reached, and this was accompanied by a strong wind. Crops that had been blown in May have had no chance to revive, while healthy crops have been burned by the hot winds. Although the total rainfall for the season has been greater than that of last year,

the heat and wind have counteracted this advantage and crop prospects are decidedly worse than they were this time last year, even though the season of 1917 was the worst in many years. On the Experimental Farm, summer-fallow ploughing has been completed. A piece of new land has been cleared of brush and stumps and will be brought into cultivation."

Indian Head, Sask.—W. H. Gibson, Superintendent, reports:—"The weather conditions during June have not been favourable for the crops. Hot winds prevailed up to the 24th, when there was a light rainfall, which was followed by other showers on the 25th and 27th. This precipitation, amounting to 0.75 of an inch, undoubtedly saved the situation throughout the district. A few fields were badly blown on the 10th, when the thermometer registered 98 in the shade, with a gale of hot wind from the southwest. Hay is light, while hoed crops require more rain in the near future. On the whole, the crops on the Experimental Farm are remarkably good and promise a fair average return.

Rosthern, Sask.—Wm. A. Munro, Superintendent, reports:—"Up till the middle of June, crops in this district appeared more promising than for several years, but the continued dry weather which has prevailed till nearly the end of the month has changed conditions. Fortunately, on the 27th and 28th heavy rains occurred, keeping most of the crops in good condition. The high winds which have been experienced during most of the month have worked havoc with many crops on light land, these winds being the worst experienced at the Experimental Station since 1910. This marked difference is to be noted, however: then there was more dust movement, due to the wind, on the Experimental Station than on the farms around; but this year there has been no dust, except from the roads on the original quarter section of the Experimental Station, whereas all the farms around suffered severely. This difference is probably due principally to the use of grasses in the rotations that have been followed at the Station."

Scott, Sask.—M. J. Tinline, Acting Superintendent, reports:—"The usual summer rains have failed to materialize during June and, following the dry season of 1917, the soil moisture is much depleted. Wheat plants are very short and in shot blade. Late sown grain, in many instances, has failed to germinate, and early sown oats were frozen off badly. Rain must come immediately if any crop is to be harvested. Strong winds have prevailed and have injured the crops in some sections. Some new land is being broken up, but this work is much curtailed by the condition of the soil, which is hard and dry. A sheep shearing demonstration was held at this Station early in the month.

Lacombe, Alberta.—G. H. Hutton, Superintendent, reports:—"The weather during June has not been favourable for the maximum development of vegetation. The first three weeks of the month were windy, warm and dry, the result being that crops were delayed through lack of sufficient moisture and high winds. Extreme changes in

temperature early in June also carried frost in some sections, but drifting sand later on in the month did greater damage to crops than the frost. During the last week of June copious rains fell over the greater portion of central Alberta, sufficient at least for the immediate needs of grain crops. If showery weather continues, as needed, the yield in this section should be normal, though the crop of hay cannot now be but light."

Lethbridge, Alberta.—W. H. Fairfield, Superintendent, reports:—"The usual June rains have failed to materialize. The total precipitation recorded from April 1st to June 30th amounts to but 1.46 inch, which is less for these three months than has ever been previously recorded at Lethbridge, where meteorological records have been kept since the spring of 1901; consequently, the crop outlook is very poor. All grain crops are entirely gone in this part of the Province, except such as were sown on summer-fallowed land, and, although such fields look well considering the small amount of rainfall that has been experienced, still, in the drier localities, even these will fail to produce a crop; but in most districts some grain will be obtained from such land. Crop conditions are best in the district of Cardston and Spring Coulee and along the territory lying adjacent to the mountains. In southern Alberta, pasture on the ranges generally is extremely scanty, and it is reported that stock in some localities are not doing particularly well. The prospects for hay are poor, except on the limited areas of irrigated land. At the Station, most of the alfalfa has been cut, and, where ample irrigation water has been applied, the yield is excellent."

Invermere, B.C.—G. E. Parham, Superintendent, reports:—"Drought and high winds have continued during June, and all crops in the district, except those for which an abundant supply of water for irrigation has been available, have suffered considerably. The rainfall totals 0.36 of an inch against an average for the four preceding years of 2.36 inches, while the total precipitation for the four months ending June 30th amounts to only 2 inches. Bright sunshine, averaging over ten hours a day, was recorded on twenty-nine days during the month. At the Experimental Station, crops grown under dry-farming conditions are a failure; but all irrigated sections, particularly the clover and alfalfa, promise to yield heavily, and are ready to cut on June 30. Roots also promise well, poisoned bran being successfully used in controlling the depredations of the cutworm, which in 1917 entirely destroyed the mangold crops.

Summerland, B.C.—R. H. Helmer, Superintendent, reports:—"June came in cool, with cold nights. At this Station, the partial eclipse was plainly visible through a haze of smoke and light clouds about 4 o'clock p.m. Practically no rain fell this month, except one shower of 0.16 of an inch, but, the weather being very warm, the moisture soon evaporated. Alfalfa hay has been harvested in good condition. In the northern end of the Okanagan valley, good rains fell about the 22nd, and this has saved the situation. The June drop in all fruits has been very heavy and crops will be only medium. Hay

crops are light. Tomatoes, peppers, egg plants, etc., are backward this year, although the plants are looking well. Creeks have not held up as long as they should, and some districts just south of the line have suffered very heavily."

Agassiz, B.C.—W. H. Hicks, in charge, reports:—"Weather conditions during June have been decidedly unfavourable for growing crops. The unusually light precipitation of 1.74 inch is the lowest recorded for seven years, while the mean temperature is the highest for the same period. Cereal crops are very short. Generally speaking, the hay crop is thin, short and weedy. Towards the close of the month, some hay has been harvested in good condition. Live stock is in fair shape, but rain is badly needed to revive pastures. Dairy and poultry products continue to sell at a good figure. The labour problem is very acute, now that the hoeing season has arrived."

Sidney, Vancouver Island, B.C.—Lionel Stevenson, Superintendent, reports:—"Drought conditions continued during June, much to the detriment of all growing crops. A hay crop averaging one ton per acre has been harvested in good condition. The prospect for second growth on meadows is very limited. Autumn wheat developed before the soil moisture reached the point of exhaustion, and, in consequence, many fields promise a yield of thirty bushels per acre. Spring grains are all very light, and oats and wheat will not give more than half a crop; peas have withstood the drought conditions better than other crops. The contrast between autumn sown and spring sown cereals is very marked. Roots and potatoes will yield below average. Corn for fodder and ensilage has developed slowly. The strawberry and other small fruits harvested during the closing week of the month have yielded but little better than half the average. Orchard fruits have developed normally and promise good yields. At the Experimental Station, some plots of cereals were harvested, and the second growth of alfalfa has reached the hay-making stage. Live stock is in good condition at present, but the local feed outlook is not a bright spot for the coming months. Some of last year's hay crop is being held."

Meteorological Record for June, 1918.

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of June are given in the following table:—

Experimental Farm or Station at—	Degrees of Temperature, F.			Precipitation in inches.	Hours of Sunshine.	
	High-est.	Low-est.	Mean.		Possible.	Actual.
Ottawa, Ont.....	89.8	36.6	61.79	3.13	469	293.0
Charlottetown, P.E.I.....	79.0	35.0	56.816	3.25	471	245.7
Kentville, N.S.....	83.0	34.0	57.580	2.30	467	214.9
Nappan, N.S.....	80.0	30.0	55.840	3.14	470	212.2
Fredericton, N.B.....	86.0	34.0	57.40	3.06	471	218.6
Ste. Anne, de la Pocatière, Que.....	80.6	33.0	54.80	5.13	476	224.6

Meteorological Record for June, 1918—concluded.

Experimental Farm or Station at—	Degrees of Temperature, F.			Precipitation in inches.	Hours of Sunshine.	
	High-est.	Low-est.	Mean.		Pos-sible.	Actual.
Cap Rouge, Que.....	82.0	34.2	56.76	6.77	474	210.9
Lennoxville, Que.....	83.0	31.0	55.63	4.41	468	193.3
Brandon, Man.....	101.8	32.0	60.80	.97	488	201.0
Indian Head, Sask.....	98.0	28.0	59.60	.82	490	247.8
Rosthern, Sask.....	98.7	32.9	61.68	.93	505	274.2
Scott, Sask.....	95.4	27.2	51.60	.29	502	314.8
Lacombe, Alta.....	85.3	26.4	52.32	1.47	501	248.7
Lethbridge, Alta.....	89.5	29.0	59.50	.75	488	356.8
Invermere, B.C.....	90.0	28.0	58.50	.36	492	302.1
Summerland, B.C.....	94.0	37.0	65.16	.19	489	291.2
Agassiz, B.C.....	86.0	39.0	61.68	1.74	485	208.7
Sidney, Vancouver I., B.C.....	82.0	37.0	60.50	0.45	482	317.8

Ottawa, July 13, 1918.

J. H. GRISDALE,
Director Experimental Farms.

CROP REPORTS FROM OTHER COUNTRIES.

India.—The final forecast of the Indian wheat crop of 1917-18 is estimated at 380,200,000 bushels, as compared with 379,304,000 bushels in 1916-17. The surplus available for export, apart from reserves of 1917, is placed at between 68 and 72 million bushels.

New South Wales.—The Bureau of Statistics at Sydney published on May 31 a statement showing that the estimated yield of wheat in New South Wales for the year 1917-18 is 37,843,930 bushels from 3,232,700 acres harvested for grain, as compared with 36,598,000 bushels from 3,806,604 acres in 1916-17, the respective yields per acre being 11.71 bushels and 9.60 bushels. The yield of wheat hay is 475,300 tons from 421,700 acres as compared with 813,768 tons from 633,605 acres.

South Australia.—The Government Statist issued on May 14 a preliminary estimate of the results of the cereal harvest for the year 1917-18 as follows. Wheat upon a total sown acreage of 2,355,682 produced 28,692,594 bushels as compared with 45,745,064 bushels from 3,112,479 acres in 1916-17. The average yield per acre is 12.18 bushels as compared with 16.46 bushels. Of hay the cut was 354,400 tons as compared with 436,813 tons. The total yield of barley, viz., 1,585,556 bushels, with an average of 16.72 bushels per acre shows a decrease of 148,864 bushels as compared with the record season of 1916-17. Of the total yield 1,260,588 bushels were returned as malting barley. Of oats 1,291,342 bushels were harvested, averaging 12.27 bushels per acre, a decrease of 548,199 bushels as compared with 1916-17.

Argentina.—Official estimates place the yield of corn in Argentina for 1918 at 170,660,000 bushels, of which 98,420,000 bushels will be available for export.

United States.—The Crop Reporting Board of the U.S. Department of Agriculture issued (July 9) the following estimates of the areas under the principal field crops:—

Crop.	Acres.	Per cent of 1917.	Crop.	Acres.	Per cent of 1917.
Cotton.....	37,073,000	106.2	Barley.....	9,108,000	103.1
Winter wheat.....	36,392,000	132.7	Rye.....	5,435,000	132.5
Spring wheat.....	22,489,000	121.5	White potatoes.....	4,113,000	93.7
All wheat.....	58,881,000	128.2	Tobacco.....	1,452,900	100.4
Corn.....	113,835,000	95.1	Flax.....	1,967,000	108.7
Oats.....	44,475,000	102.1	Rice.....	1,120,300	116.2

The following statement gives the condition at July 1 and the total estimated production in millions of bushels, tons or pounds of the crops named, together with the comparative figures of previous years:—

Crop.	Condition in per cent of normal.				Yield per acre.			Total yield in millions of bushels, tons or lb.			
	July 1, 1917.	June 1, 1918.	July 1, 1918.	July 1 ten year average.	1917.	1918. ¹	Average 1912-1916.	1917.	June forecast, 1918. ¹	July forecast, 1918. ¹	Average 1912-1916.
	p.c.	p.c.	p.c.	p.c.	bush.	bush.	bush.	bush.	bush.	bush.	bush.
Winter wheat....	75.9	83.8	79.5	80.6	15.2	15.3	15.7	418	587	557	552
Spring wheat....	83.6	95.2	86.1	83.9	12.6	14.8	13.1	233	344	334	257
All wheat....	78.9	87.7	81.9	81.8	14.2	15.1	14.7	651	931	891	809
Corn.....	81.1	—	87.1	83.6	26.4	27.8	26.0	3,159	—	3,160	2,761
Oats.....	89.4	93.2	85.5	84.5	36.4	32.3	31.2	1,587	1,500	1,437	1,296
Barley.....	85.4	90.5	84.7	84.7	23.7	25.2	25.1	209	235	230	202
Rye.....	79.4	83.6	80.8	88.3	14.7	15.0	16.1	60.1	81	81.6	44.5
White potatoes...	90.1	—	87.6	87.3	100.8	98.6	95.9	443	—	406	362
Flax.....	84.0	—	79.8	85.8	4.7	8.0	8.2	8.5	—	15.8	17.6
Rice.....	85.1	—	91.1	88.7	37.6	38.7	35.5	36.3	—	43.4	28.9
					ton	ton	ton	tons	tons	tons	tons
Hay.....	84.3	89.0	82.2	83.4	1.36	1.46	1.34	94.9	107	102	95.4
					lb.	lb.	lb.	lb.	lb.	lb.	lb.
Tobacco.....	87.6	—	83.1	83.2	827.1	817.1	816	1,196	—	1,187	1,033

¹Interpreted from condition report.

The amount of wheat remaining on farms on July 1 is estimated at 1.3 p.c. of last year's crop, or about 8,283,000 bushels, as compared with 15,611,000 bushels on July 1, 1917, and 39,066,000 bushels, the average of stocks on July 1 for the five years 1912-16.

INTERNATIONAL INSTITUTE OF AGRICULTURE.

The Bulletin of Agricultural and Commercial Statistics for June gives revised areas sown to the principal cereals in countries of the northern hemisphere for 1918, as compared with 1917 and with the average of the five years 1911-15. With the areas converted from hectares to acres, the figures are as in the following table:—

Revised Estimate of Areas sown to Cereal Crops in the Northern Hemisphere, 1917 and 1918.

Countries.	1917.	1918.	Per cent of 1917.	Five year average 1911-15.	Per cent of five year average.
	000 acres.	000 acres.	p.c.	000 acres.	p.c.
Wheat—					
Denmark.....	138	141	102.4	143	98.4
Spain.....	10,134	9,997	98.6	9,827	101.7
France.....	10,569	11,927	114.7	14,179	84.1
England and Wales.....	1,918	2,665	138.9	1,890	140.9
Scotland.....	55	67	121.8	56	105.4
Italy.....	4,272	10,873	103.0	11,887	91.5
Luxemburg.....	22	23	104.8	27	85.1
Switzerland.....	139	203	146.2	110	184.5
Canada.....	14,756	15,838	107.0	12,470	127.0
United States—					
(a) Winter wheat.....	27,430	36,392	132.7	34,059	106.8
(b) Spring wheat.....	18,511	22,489	121.5	18,476	121.7
British India.....	32,856	35,342	107.0	30,554	115.7
Japan.....	1,236	1,458	118.0	1,193	122.3
Algeria.....	3,222	3,186	98.9	3,382	94.2
Tunis.....	1,310	1,413	107.9	1,353	104.4
Rye—					
Denmark.....	455	537	118.0	565	95.0
Spain.....	1,829	1,989	108.8	1,883	105.6
France.....	2,046	1,942	97.1	2,498	77.5
Italy.....	279	272	97.3	299	91.0
Luxemburg.....	17	16	94.8	25	63.7
Switzerland.....	55	72	129.7	64	112.1
Canada.....	212	229	108.0	124	184.7
United States.....	4,214	6,119	149.2	2,711	225.7
Barley—					
Spain.....	3,839	4,249	110.7	3,649	116.5
France.....	1,474	1,396	94.7	1,689	82.7
England and Wales.....	1,460	1,490	102.1	1,417	105.2
Scotland.....	159	150	94.3	181	83.0
Italy.....	470	494	105.3	607	81.4
Switzerland.....	5	22	473.7	4	562.5
Canada.....	2,392	2,404	100.0	1,640	146.6
United States.....	8,835	9,108	103.1	7,500	121.4
Japan.....	2,738	2,721	99.4	3,106	87.6
Algeria.....	2,839	2,794	98.4	3,086	90.5
Tunis.....	1,038	1,238	119.3	1,162	106.5
Oats—					
Spain.....	1,168	1,506	128.9	1,347	111.8
France.....	6,437	7,227	112.3	8,525	85.0
England and Wales.....	2,259	2,820	124.8	2,030	138.9
Scotland.....	1,041	1,220	117.2	957	127.4
Italy.....	1,107	1,112	100.5	1,206	92.2
Switzerland.....	70	86	122.7	88	98.1
Canada.....	13,313	13,784	104.0	10,576	130.3
United States.....	43,573	44,476	102.1	39,457	112.7
Algeria.....	682	588	86.2	542	108.4
Tunis.....	124	156	126.0	132	117.9
Corn—					
Italy.....	3,875	3,459	89.3	3,904	88.6
Switzerland.....	5	7	152.1	3,000	229.7
Japan.....	142	143	100.8	145,000	99.1

CONDITION OF FIELD CROPS IN NORTHERN HEMISPHERE.

The condition of crops on June 1, expressed according to the Institute's system of 100 being equal to the average yield per acre for the past ten years, is as follows: Wheat, Scotland 110, Ireland 115, Sweden 103, Switzerland 94. Rye, Sweden 107, Switzerland 100. Barley, Sweden 103, Switzerland 100. Oats, Sweden 98, Switzerland 94, Tunis 110. Corn, Switzerland 100.

France.—Taken as a whole cereals look well, and in some places exceedingly well. The outlook for potatoes is generally still satisfactory.

United Kingdom.—In England and Wales high temperature and timely rains during May were favourable to growth. In Scotland growth was fairly quick. Wheat and barley are in good condition, but oats have suffered much from wireworm and some resowing has been necessary. In Ireland all crops look well, and cereals are of good promise.

In England and Wales the area under potatoes in 1918 is 644,994 acres against 507,981 acres in 1917 and 451,576 acres, the average from 1912 to 1916. It is therefore 127.0 p.c. and 142.8 p.c. of the two last-mentioned areas respectively. The crop condition on June 1, 1918, was good. In Scotland the area under potatoes in 1918 is estimated at 169,999 acres against 147,715 in 1917 and 145,133 the average from 1912 to 1916, or 115.1 p.c. and 117.1 p.c. of the two last-mentioned areas respectively. The condition of the crop on June 1 was excellent. In Ireland the potato outlook is promising, but rain would be beneficial.

Italy.—The downfalls of rain, especially towards the end of the month, accompanied by strong winds, have laid wheat and other grain crops in some places. The area under rice in 1918 is 321,238 acres against 346,443 in 1917 and 358,155 acres, the average from 1912 to 1916. It is therefore 92.7 p.c. and 89.7 p.c. of the two last-mentioned areas respectively. The crop condition on June 1 was an average one, while it was good at the same date in 1917. The area under potatoes in 1918, excluding occupied territory, is 741,318 acres against 790,739 acres in 1917 and 722,933 acres, the average from 1912 to 1916. It is therefore 93.7 p.c. and 102.5 p.c. of the two last-mentioned areas respectively. The crop condition on June 1, 1918, was an average one, while it was good at the same date in 1917.

Netherlands.—Generally speaking the weather has been favourable. The area under winter-sown cereals is larger than in the previous year.

Sweden.—The condition of the potato crop on June 1, 1918, expressed according to the Institute system, was equal to 102 against 97 on June 1, 1917.

Switzerland.—May was exceedingly dry, and strong winds also parched the ground and hindered growth. Winter cereals have come on well, and if the drought does not cause more injury a relatively satisfactory yield may be expected. The area under potatoes in 1918

is 170,503 acres against 140,233 in 1917 and 120,094 the average from 1912 to 1916, or 121.6 p.c. and 142 p.c. of the two last-mentioned areas respectively. The crop condition, expressed according to the Institute system, was equal to 100 on June 1, 1918.

Egypt.—The weather on the whole is favourable; strong winds prevailed in April, but as the wheat was nearly ripe no great injury was experienced.

Japan.—The area under potatoes in 1918 is estimated at 271,817 acres against 245,586 in 1917 and 200,356, the average from 1912 to 1916, or 110.7 p.c. and 135.7 p.c. of the two last-mentioned areas respectively. The condition of the crop on June 1, 1918, was good, while it was an average one at the same date in 1917.

Tunis.—May rains were propitious for wheat, for the later barley and for maize, but unfavourable for the early crop of barley, as the harvest had already begun. The area under potatoes in 1917-18 is 5,283 acres against 1,604, the average of the three years 1913-14 to 1915-16, or 329.4 p.c. of the last-mentioned area. The crop condition of June 1, 1918, was good.

FIELD CROPS IN THE SOUTHERN HEMISPHERE.

South Africa.—In spite of the excessive March rains, the weather in general has improved, and sunshine has been beneficial in some districts. On account of the damp and cold, crops are backward in many parts, and the growth of weeds is complained of. The maize crop of 1917-18 is estimated at 35,828,330 bushels against 34,999,763 in 1916-17 and an average of 29,916,584 bushels from 1911-12 to 1915-16, or 102.4 p.c. and 119.8 p.c. of the two last-mentioned yields respectively.

Australia.—The area under wheat in 1917-18 was 9,880,343 acres against 11,529,966 in 1916-17 and 9,237,744, the average from 1911-12 to 1915-16, or 85.7 p.c. and 107 p.c. of the two last mentioned areas respectively. The yield of wheat in 1917-18 was 122,586,801 bushels against 152,088,159 in 1916-17 and 94,297,153, the average from 1911-12 to 1915-16, or 80.6 p.c. and 130 p.c. of the two last-mentioned yields respectively. The yield per acre is therefore 12.34 bushels in 1917-18, against 13.23 in 1916-17 and 10.26, the average from 1911-12 to 1915-16.

New Zealand.—The area under potatoes in 1917-18 is estimated at 26,000 acres against 26,156 in 1916-17 and 26,517 the average from 1911-12 to 1915-16, or 99.4 p.c. and 98.1 p.c. of the two last mentioned areas respectively. The yield of 1917-18 is estimated at 4,853,330 bushels against 4,989,300 in 1916-17 and 5,310,569 bushels, the average from 1911-12 to 1915-16, or 97.3 p.c. and 91.4 p.c. of the two last mentioned yields respectively. The yield per acre is therefore 186.61 bushels in 1917-18 against 190.78 in 1916-17 and 200.29, the average from 1911-12 to 1915-16.

FIELD CROPS OF THE UNITED KINGDOM, 1917.

Vol. LII, Part II of the Agricultural Statistics of England and Wales [Cd. 9,089] gives the final return of the acreage and yield of field crops in the United Kingdom for the year 1917, exclusive of the Channel Islands and the Isle of Man, as follows:—

Crops.	1916.	1917.	1916.	1917.	1916.	1917.	Average of the ten years 1907-16.
	acres.	acres.	bush.	bush.	bush. per acre.	bush. per acre.	bush. per acre.
Wheat.....	2,051,729	2,103,498	59,775,072	64,322,816	29.13	30.58	31.74
Barley.....	1,651,874	1,796,066	52,900,400	57,478,744	32.02	32.00	33.75
Oats.....	4,146,843	4,763,989	170,670,256	208,167,272	41.16	43.70	42.25
Beans.....	235,024	210,899	7,140,576	3,792,648	30.38	17.98	29.67
Peas.....	85,558	103,294	2,088,720	2,225,128	24.41	21.54	25.81
Potatoes.....	1,144,375	1,364,967	204,171,557	321,209,280	178.41	235.32	214.29
Turnips and Swedes.....	1,609,500	1,676,888	870,545,013	927,420,405	540.87	553.06	546.19
Mangolds.....	459,731	482,942	336,364,074	387,110,677	731.65	801.57	722.03
			tons	tons	tons	tons	tons
Hay ¹	3,053,064	3,095,653	6,145,853	5,306,210	2.01	1.71	1.82
Hay ²	6,521,192	6,494,428	10,875,763	9,440,820	1.67	1.45	1.58
			cwt.	cwt.	cwt.	cwt.	cwt.
Hops.....	31,352	16,946	344,799	247,205	10.99	14.60	10.64

¹Clover, Sainfoin, etc. ²Permanent grass.

NOTE.—The ton=2,000 lb. and the cwt.=100 lb.

The acreage of wheat increased from 2,051,729 in 1916 to 2,103,498 in 1917 and of potatoes from 1,144,375 to 1,364,967. The potato crop was an exceptionally good one, yielding 235.32 bushels per acre, or 56.91 bushels above the yield of 1916 and 21.03 bushels above the decennial average.

The natural weights per measured bushel of wheat, barley and oats in England and Wales were in 1917 as follows: Wheat 61.2 lb. (61.4 lb.), barley 53.2 lb. (53.5 lb.), oats 37.9 lb. (39 lb.). The figures within brackets are those of 1916.

AGRICULTURAL CENSUS OF THE PRAIRIE PROVINCES, 1916.

The Dominion Bureau of Statistics has now published the final and complete Report on the Census of the Population and Agriculture of the Prairie Provinces for the year 1916. It is a volume of 356 pages preceded by an introduction of 64 pages, and is divided into two parts dealing with population and agriculture, respectively. The total population for 1916, as returned by the Census, is 1,698,220, as compared with 1,328,725 in 1911. The rural population is

1,092,160 and the urban 606,060, the rate of increase since 1911 being 29·13 p.c. for the rural and 27·09 p.c. for the urban.

The data relating to the area and yield of the principal field crops, as given in this volume, have already been published in the Monthly Bulletin, and are included especially in the comparative table which appeared in the January issue of the present year (Vol. 11, No. 113, pp. 10-12). This article is therefore limited to the extraction of other items of information which now appear for the first time in the complete report.

Number of Farms.—As compared with 1911, the number of farms in the three provinces has increased by 15,089, or 7·41 p.c., the number being 218,563 in 1916 and 203,474 in 1911. In Manitoba the number of farms in 1916 was 46,580, an increase since 1911 of 974, or about 2 p.c.; in Saskatchewan it was 104,006, an increase of 7,634, or 8 p.c., and in Alberta 67,977, an increase of 6,481, or 10·5 p.c. The total acreage in farms for the three provinces is 73,300,135, as compared with 58,623,117 in 1911, an increase during the five years of 14,677,018, or 25 p.c. By provinces, the area in farms in Manitoba is 13,436,670, an increase of 1,208,437, or 10 p.c., in Saskatchewan 36,800,698, an increase of 8,157,713, or 28·5 p.c., and in Alberta 23,062,767 acres, an increase of 5,310,868 acres, or 30 p.c.

Improved Land in Farms.—Of the total acreage in farms, viz. 73,300,135, the area improved is 34,330,246, or 47 p.c. Manitoba has 7,187,737 acres improved out of 13,436,670 acres in farms, Saskatchewan 19,632,206 acres out of 36,800,698 acres and Alberta 7,510,303 acres out of 23,062,767 acres, the percentage of land improved to total farms being 53 in Manitoba and Saskatchewan and 32·5 in Alberta.

Farm Live Stock.—A new feature of this Census was the extension of the scheme of classification for farm animals. The numbers are given by provinces and classes as follows:—

Description.	Manitoba.	Saskatchewan.	Alberta.	Three Provinces.
	No.	No.	No.	No.
Stallions:				
3 years old and over.....	2,571	7,483	6,408	16,462
Yearlings and 2 years old.....	1,627	3,538	2,672	7,837
Foals.....	3,107	11,338	8,267	22,712
Mares:				
3 years old and over.....	122,845	300,478	225,543	648,866
Yearlings and 2 years old.....	28,520	78,351	74,077	180,948
Foals.....	17,286	47,585	42,944	107,815
Geldings.....	148,751	385,416	269,551	803,718
Total Horses.....	324,707	834,189	629,462	1,788,358
Mules.....	2,695	7,318	4,726	14,739
Bulls.....	10,287	16,227	18,117	44,631
Milch cows.....	197,825	322,767	277,324	797,916
Calves.....	144,642	257,896	275,473	678,011
Other cattle.....	204,330	416,133	589,176	1,209,639
Total Cattle.....	559,779	1,020,341	1,164,816	2,744,936

Description.	Manitoba.	Saskatchewan.	Alberta.	Three Provinces.
	No.	No.	No.	No.
Rams.....	2,099	2,294	3,765	8,158
Ewes.....	42,028	63,529	147,830	253,387
Lambs.....	28,575	41,747	92,349	162,671
Other.....	4,060	16,667	50,746	71,473
Total Sheep.....	76,762	124,237	294,690	495,689
Boars.....	2,250	4,103	5,504	11,857
Sows.....	35,943	91,975	99,752	227,670
Young pigs.....	109,914	267,946	333,631	711,491
Other pigs.....	67,933	166,703	164,667	399,303
Total Swine.....	216,040	530,727	603,554	1,350,321
Hens and chickens.....	19,415	29,050	33,360	81,825
Ducks.....	730	670	1,027	2,427
Geese.....	611	657	926	2,194
Turkeys.....	1,254	1,659	1,587	4,500

Value of Farm Property.—Finally, it may be noted that the total value of all farm property in the three Prairie Provinces in 1916 was computed to be \$2,174,092,872, as compared with \$1,788,692,159 in 1911, an increase of \$385,400,713, or 21.5 p.c. Of the total in 1916, land accounts for \$1,382,407,066, buildings are \$218,547,013, implements \$165,824,925 and live stock \$407,313,868.

THE WEATHER DURING JUNE.

The Dominion Meteorological Office reports that the mean temperature was in excess of the normal from western Manitoba to the Pacific, and less than normal in all other portions of the Dominion. The excess was greatest, amounting to about 6°, in southern Alberta, and the defect was greatest in the Upper Ottawa Valley and northern Quebec, where it was from 3° to 5°. In the West the abnormal warmth resulted from a series of heat waves during the second and third weeks, whereas the first and fourth weeks were comparatively cool. From Ontario eastward the warmest periods were the first few days and the last week of the month. The rainfall of June was greatly in defect in the western provinces, exclusive of the extreme eastern and northern districts of Manitoba and the extreme northern districts of Saskatchewan and Alberta. In southern Alberta the total rain of the month was very generally less than one inch, and in southern Saskatchewan and western Manitoba it was less than two inches. In Ontario differences from average were mostly negative, but in the extreme north and towards the Ottawa Valley the rainfall was very nearly average, and in some small districts near the west end of Lake Ontario and in Peterboro' and Haliburton counties it was somewhat in excess. In Quebec and the Maritime Provinces the rain was in excess of the average, excepting only the extreme southwestern part of Nova Scotia.

PRICES OF AGRICULTURAL PRODUCE, 1918.

I. Weekly Range of Prices per bushel of Canadian Grain at Winnipeg and Fort William, 1918.

(Furnished by the Board of Grain Commissioners for Canada, Fort William, Ont.).

Grain and Grade.	June 1.		June 8.		June 15.		June 22.		June 29.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—										
No. 1 Nor.....	2 21	—	2 21	—	2 21	—	2 21	—	2 21	—
No. 2 Nor.....	2 18	—	2 18	—	2 18	—	2 18	—	2 18	—
No. 3 Nor.....	2 15	—	2 15	—	2 15	—	2 15	—	2 15	—
No. 4.....	2 08	—	2 08	—	2 08	—	2 08	—	2 08	—
No. 5.....	1 96	—	1 96	—	1 96	—	1 96	—	1 96	—
No. 6.....	1 87	—	1 87	—	1 87	—	1 87	—	1 87	—
Feed.....	1 80	—	1 78	—	1 78	—	1 78	—	—	—
Oats—										
No. 2 C.W.....	0 77½—0 82½		0 82½—0 84½		0 83½—0 85½		0 85 —0 86½		0 85 —0 85½	
No. 3 C.W.....	0 74½—0 79½		0 79½—0 81½		0 80½—0 82½		0 82 —0 83½		0 82 —0 82½	
No. 1 Feed Ex.....	0 74½—0 79½		0 79½—0 81½		0 80½—0 82½		0 82 —0 83½		0 82 —0 82½	
No. 1 Feed.....	0 71½—0 76½		0 76½—0 78½		0 77½—0 79½		0 79 —0 80½		0 79 —0 79½	
No. 2 Feed.....	0 68½—0 73½		0 73½—0 75½		0 74½—0 76½		0 76 —0 77½		0 76 —0 76½	
Barley—										
No. 3 C.W.....	1 30	—	1 25 —1 30		1 15 —1 27		1 17 —1 22		1 17 —1 18	
No. 4 C.W.....	1 25	—	1 20 —1 25		1 10 —1 22		1 12 —1 17		1 12 —1 13	
Rejected.....	1 08	—	1 08	—	1 08 —1 09		1 07½—1 10		1 09	—
Feed.....	1 00	1 03	1 03	—	1 03 —1 06		1 06½—1 09		1 07½	—
Flax—										
No. 1 N.C.W.....	3 57½—3 73½		3 58½—3 73½		3 72 —3 81		3 71½—3 80½		3 74½—3 78	
No. 2 C.W.....	3 54½—3 70½		3 53 —3 68½		3 70 —3 79		3 69½—3 77½		3 71½—3 75	
No. 3 C.W.....	3 32 —3 48½		3 30½—3 43½		3 44 —3 53		3 43½—3 52½		3 46½—3 50	

II. Monthly Range of Prices per bushel of Grain at Selected Markets in the United States, 1918.

(From the Monthly Report of the U.S. Department of Agriculture.)

Grade and Market.	March.		April.		May.		June.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat, Red Winter, No. 2—								
St. Louis.....	2 15	—	2 15	—	2 15	—	2 15	—
Chicago.....	2 17	—	2 17	—	2 17	—	2 17	—
New York (f.o.b. afloat).....	2 26	—	2 26	—	2 26	—	2 26	—
Corn, No. 2, mixed—								
St. Louis.....	1 60 —1 90		1 68 —1 70		1 52 —1 53½		1 48 —1 64	
Corn No. 2—								
Chicago.....	1 65 —1 75		1 60 —1 65		1 55 —1 60		1 50 —1 65	
Oats, No. 2—								
St. Louis.....	0 86 —0 95½		0 77½	—	0 70 —0 82½		0 70 —0 78	
Chicago.....	0 84½—0 92½		0 78½	—	0 72 —0 79½		0 71 —0 80½	
Rye, No. 2—								
Chicago.....	2 72 —2 95		2 60	—	1 30 —2 60		1 60 —2 50	

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WEEKLY BULLETIN

(Circulated within Canada only),

Containing Reports of Trade Commissioners and General Trade Information.

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The German War and its relation to Canadian Trade.

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The Timber Import Trade of Australia.

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CANADA, THE COUNTRY OF THE TWENTIETH CENTURY.

GRAIN INSPECTION IN CANADA.

LIST OF LICENSED ELEVATORS.

RULES AND REGULATIONS OF THE BOARD OF GRAIN
COMMISSIONERS.

REPORT OF THE BOARD OF GRAIN COMMISSIONERS.

MAIL SUBSIDIES AND STEAMSHIP SUBVENTIONS.

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DEPARTMENT OF TRADE AND COMMERCE.

PUBLICATIONS

OF THE

DOMINION BUREAU OF STATISTICS.

ANNUAL REPORT OF THE TRADE OF CANADA.

MONTHLY REPORT OF THE TRADE OF CANADA.

THE CANADA YEAR BOOK, 1916-17, with Map of Canada and Newfoundland, a Statistical Summary of the Progress of Canada and numerous illustrations pp. 1-xvi, 1-720.

Contents: I Natural Resources of the Dominion of Canada, by WATSON GRIFFIN, Department of Trade and Commerce, Ottawa, with 10 illustrations; II Physical Characteristics of Canada, including Geographical Features; Economic Geology in Canada, 1917, by WYATT MALCOLM, Department of Mines, Ottawa; III Area and Population; IV Education; V Climate and Meteorology, with Diagram; VI Production; VII Trade and Commerce; VIII Transportation and Communications; IX Labour; X Finance; XI Administration; XII Legislation and Principal Events of the Years 1916 and 1917; XIII Extracts from the Canada Gazette 1916 and 1917.

THE CANADA YEAR BOOK. Second Series 1905-1915. [1910 and 1913, out of print.]

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. Nos. I to XIX.

REPORT OF THE FIFTH CENSUS OF CANADA, 1911.

Vol. I, 1912. Areas and Population by Provinces, Districts and Subdistricts with Introduction. Tables I to XV, pp. i-viii, 1-623. [Out of print.]

Vol. II, 1913. Religions, Origins, Birthplace, Citizenship, Literacy and Infirmitates by Provinces, Districts and Subdistricts, with Introduction. Tables I-XLVI, pp. i-iv, 1-634.

Vol. III, 1913. Manufactures for 1910 as enumerated in June 1911, with Introduction. Tables I-XX, pp. i-xvi, 1-432.

Vol. IV, 1914. Agriculture with Introduction. Tables 1-90; I-XXXV, pp. i-xcv, 1-428. Diagrams, 5 pp. [Out of print.]

Vol. V, 1915. Forest, Fishery, Fur and Mineral Production, with Introduction. Tables 1-51; I-XXVI, pp. i-l, 1-171.

Vol. VI, 1916. Occupations of the People, with Introduction. Tables 1-25; I-VI, i-xxxi, 1-469. [Out of print.]

REPORT OF THE CENSUS OF POPULATION AND AGRICULTURE OF THE PRAIRIE PROVINCES, 1916. January 12, 1918. Tables 1-54; I-XXVI, pp. i-lxiv, 1-356.

SPECIAL REPORT ON THE FOREIGN-BORN POPULATION. Abstracted from the Records of the Fifth Census of Canada. June, 1911. 23 tables. 62 pp. 1915.

REPORT OF THE POSTAL CENSUS OF MANUFACTURES, 1916. pp. i-xi, 1-263, 1917.

REPORT ON THE PRODUCTION OF CREAMERIES AND CHEESE FACTORIES, 1915 and 1916. pp. 1-24, 1917.

CRIMINAL STATISTICS. Annual Report for Year ended September 30, 1915. pp. i-xliv, 1-398.

CENSUS AND STATISTICS MONTHLY, Vols. 1-9, 1908-1916; Vol. 10, Nos. 101-103, 1917. MONTHLY BULLETIN OF AGRICULTURAL STATISTICS, Vols. 10 and 11, Nos. 104-119, 1917-18.

For List of other Publications of the Department of Trade and Commerce, see page iii of cover.

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1918

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DOMINION BUREAU OF STATISTICS, OTTAWA, CANADA.

FIELD CROPS OF CANADA.

Report for the month ended July 31, 1918.

The Dominion Bureau of Statistics issued to-day the usual crop report compiled from the returns of Crop Correspondents made on July 31, 1918.

YIELD OF FALL WHEAT AND OF HAY AND CLOVER.

The preliminary estimate of the yield per acre of fall wheat for Canada is $15\frac{1}{2}$ bushels, as against $21\frac{1}{2}$ bushels in 1917 and in 1916 and 23 bushels, the decennial average for 1908-1917. Upon the harvested area of 340,700 acres, this gives a total yield of 5,275,700 bushels, as compared with 15,363,450 bushels in 1917 and 17,590,000 bushels in 1916. In Ontario, where the bulk of the fall wheat crop is grown, the estimated total yield for 1918 is 4,435,200 bushels from 277,200 acres, a yield per acre of 16 bushels, as compared with last year's estimate of 14,114,800 bushels from 656,500 acres, a rate per acre of $21\frac{1}{2}$ bushels. The total yield of hay and clover for Canada is placed at 10,064,100 tons from 8,015,250 acres, representing a yield per acre of $1\frac{1}{4}$ ton. The corresponding figures of 1917 were 13,684,700 tons from 8,225,034 acres, or 1.66 ton per acre.

CONDITION OF SPRING-SOWN GRAIN.

In the Prairie Provinces the drought remained unbroken until towards the end of July, and serious damage to wheat in the blossom stage was caused by heavy frosts which occurred from the 23rd to the 25th of the month. Conditions were improved by rains that fell during the last week of the month. For the whole of Canada the condition of crops on July 31 was worse than at the end of June. Spring wheat, measured against 100 as representing the average decennial yield, is 77, compared with 85 on June 30 and 93 on July 31, 1917; oats are 85 against 91 and 90; barley is 86 against 93 last month and 93 on July 31, 1917, and rye is 83 against 89 and 95. Peas and mixed grains are 101, or one above average. Beans are 95, buckwheat is 93, flax is 71, corn for husking is 86, potatoes are 95, turnips and mangolds are 96, corn for fodder is 85, sugar beets are 92 and pasture is 92. In the Prairie Provinces, spring wheat is in Manitoba 85 p.c. of the average, oats are 86, barley is 89 and rye is 84. In Saskatchewan the figures are: Spring wheat 75, oats 75, barley 78 and rye 79. In Alberta spring wheat is 69, oats are 68 and barley is 70 p.c. of the decennial average. Potatoes are for Canada 95 p.c., or 5 p.c. below average, as against 98 p.c. on July 31, 1917. In the Maritime Provinces and in Quebec spring wheat is 101 in Prince Edward Island, 104 in Nova Scotia, 105 in New Brunswick and 106 in Quebec, conditions generally having improved during July. Other grain crops in these provinces are equally satisfactory. In Ontario, spring wheat

sown to 158,000 acres is marked 118 p.c., as against 101 a month ago and 111 on July 31, 1917. The figures expressing condition for the whole of Canada indicate a total yield in 1918 for wheat of nearly 232 million bushels, as compared with 233,742,850 bushels in 1917 and for oats a total yield of about 416 million bushels as compared with 403 million bushels in 1917. For the three Prairie Provinces the yield indicated by condition is for wheat 216,488,000 bushels and for oats 254,930,000 bushels.

Dominion Bureau of Statistics,
Ottawa, August 14, 1918.

ERNEST H. GODFREY,
Editor.

I. Area and Preliminary Estimate of the Yield of Fall Wheat in 1918, as compared with the Final Estimate of 1917.

Provinces.	1917.	1918.	1917.	1918.	1917.	1918.
	acres.	acres.	bush. per acre.	bush. per acre.	bush.	bush.
Ontario.....	656,500	277,200	21.50	16.00	14,114,800	4,435,200
Manitoba.....	3,860	2,000	22.25	17.75	85,900	35,500
Alberta.....	51,700	58,000	20.50	12.25	1,059,900	710,500
British Columbia.....	3,240	3,500	31.75	27.00	102,850	94,500
Canada.....	715,300	340,700	21.50	15.50	15,363,450	5,275,700

II. Area and Preliminary Estimate of the Yield of Hay and Clover and Alfalfa in 1918, as compared with the Final Estimate of 1917.

Provinces.	1917.	1918.	1917.	1918.	1917.	1918.
	acres.	acres.	tons per acre.	tons per acre.	tons.	tons.
Canada—						
Hay and clover.....	8,225,034	8,015,250	1.66	1.25	13,684,700	10,064,100
Alfalfa.....	109,795	102,900	2.39	1.25	262,300	129,600
P.E. Island—						
Hay and clover.....	197,000	193,000	1.55	1.60	305,400	308,800
Nova Scotia—						
Hay and clover.....	542,000	531,000	1.65	1.35	894,300	716,900
New Brunswick—						
Hay and clover.....	568,000	557,000	1.60	1.50	909,000	835,500
Quebec—						
Hay and clover.....	2,961,983	2,879,000	1.71	1.40	5,065,000	4,031,000
Alfalfa.....	3,818	3,600	2.26	1.65	8,600	5,900
Ontario—						
Hay and clover.....	2,998,000	2,938,000	1.70	1.15	5,097,000	3,379,000
Alfalfa.....	52,000	48,000	2.74	1.30	142,500	62,400
Manitoba—						
Hay and clover.....	75,000	74,000	1.00	1.00	75,000	74,000
Alfalfa.....	4,400	3,600	2.07	1.60	9,100	5,800
Saskatchewan—						
Hay and clover.....	260,275	245,000	1.42	0.75	369,600	183,800
Alfalfa.....	9,500	7,500	1.61	0.80	15,300	6,000
Alberta—						
Hay and clover.....	493,522	469,000	1.48	0.70	730,400	328,300
Alfalfa.....	31,396	30,500	2.05	1.05	64,400	32,000
British Columbia—						
Hay and clover.....	129,254	129,250	1.85	1.60	239,000	206,800
Alfalfa.....	8,681	9,700	2.58	1.80	22,400	17,500

III. Condition of Field Crops on July 31, 1918, as compared with June 30, 1918, and July 31, 1917.

NOTE.—100 represents the promise of a yield per acre equal to the average annual yield per acre of the ten years 1908-17.

Field Crops.	July 31, 1917.	June 30, 1918.	July 31, 1918.	Field Crops.	July 31, 1917.	June 30, 1918.	July 31, 1918.
	p.c.	p.c.	p.c.		p.c.	p.c.	p.c.
Canada—				Quebec—			
Spring wheat.....	94	86	77	Spring wheat.....	102	103	106
Oats.....	90	91	85	Oats.....	95	101	106
Barley.....	93	93	86	Barley.....	97	100	104
Rye.....	95	89	83	Rye.....	102	99	101
Peas.....	105	99	101	Peas.....	102	103	104
Beans.....	89	—	95	Beans.....	68	—	94
Buckwheat.....	104	—	93	Buckwheat.....	101	—	98
Mixed grains.....	101	99	101	Mixed grains.....	98	101	107
Flax.....	107	—	71	Flax.....	86	—	100
Corn for husking.....	95	—	86	Corn for husking.....	88	—	101
Potatoes.....	98	—	95	Potatoes.....	101	—	104
Turnips.....	107	—	96	Turnips.....	123	—	101
Mangolds, etc.....	102	—	—	Mangolds, etc.....	107	—	—
Corn for fodder.....	93	—	85	Corn for fodder.....	98	—	92
Sugar beets.....	106	—	92	Pasture.....	120	94	98
Pasture.....	100	88	92	Ontario—			
P.E. Island—				Spring wheat.....	111	101	118
Spring wheat.....	95	102	101	Oats.....	112	100	102
Oats.....	102	98	99	Barley.....	112	100	103
Barley.....	101	98	98	Rye.....	102	84	85
Peas.....	103	100	92	Peas.....	109	98	100
Buckwheat.....	104	—	94	Beans.....	94	—	96
Mixed grains.....	101	98	102	Buckwheat.....	104	—	85
Potatoes.....	104	—	93	Mixed grains.....	111	102	102
Turnips.....	101	—	95	Flax.....	107	—	97
Mangolds, etc.....	100	—	—	Corn for husking.....	81	—	77
Corn for fodder.....	100	—	91	Potatoes.....	109	—	96
Pasture.....	100	96	99	Turnips.....	117	—	95
Nova Scotia—				Mangolds, etc.....	110	—	—
Spring wheat.....	100	99	104	Corn for fodder.....	90	—	84
Oats.....	101	98	105	Sugar beets.....	106	—	92
Barley.....	103	87	101	Pasture.....	126	93	92
Rye.....	105	95	99	Manitoba—			
Peas.....	101	97	100	Spring wheat.....	85	88	85
Beans.....	111	—	84	Oats.....	70	94	86
Buckwheat.....	102	—	94	Barley.....	74	92	89
Mixed grains.....	101	96	100	Rye.....	84	89	84
Potatoes.....	107	—	101	Mixed grains.....	118	99	99
Turnips.....	104	—	98	Flax.....	78	—	92
Mangolds, etc.....	105	—	—	Potatoes.....	97	—	98
Corn for fodder.....	110	—	93	Turnips.....	100	—	91
Pasture.....	103	87	94	Mangolds, etc.....	94	—	—
New Brunswick—				Corn for fodder.....	83	—	87
Spring wheat.....	91	101	105	Pasture.....	70	83	83
Oats.....	91	101	103	Saskatchewan—			
Barley.....	92	100	98	Spring wheat.....	75	85	75
Peas.....	107	100	100	Oats.....	66	85	75
Beans.....	111	—	91	Barley.....	70	81	78
Buckwheat.....	102	—	99	Rye.....	80	89	79
Mixed grains.....	100	99	99	Peas.....	101	89	84
Potatoes.....	104	—	96	Mixed grains.....	71	80	89
Turnips.....	101	—	97	Flax.....	69	—	73
Mangolds, etc.....	107	—	—	Potatoes.....	85	—	80
Corn for fodder.....	90	—	86	Turnips.....	81	—	—
Pasture.....	105	95	102	Mangolds, etc.....	77	—	80

III. Condition of Field Crops on July 31, 1918, as compared with June 30, 1918, and July 31, 1917—con.

Field Crops.	July 31, 1917.	June 30, 1918.	July 31, 1918.	Field Crops.	July 31, 1917.	June 30, 1918.	July 31, 1918.
	p.c.	p.c.	p.c.		p.c.	p.c.	p.c.
Saskatchewan—con.				Alberta—con.			
Corn for fodder.....	75	—	70	Corn for fodder.....	93	—	52
Pasture.....	69	81	91	Pasture.....	79	74	70
Alberta—				British Columbia—			
Spring wheat.....	75	83	69	Spring wheat.....	92	90	87
Oats.....	69	83	68	Oats.....	92	86	89
Barley.....	70	104	70	Barley.....	73	93	89
Rye.....	90	89	77	Peas.....	97	86	90
Peas.....	67	78	81	Mixed grains.....	100	93	95
Mixed grains.....	66	84	99	Potatoes.....	94	—	84
Flax.....	65	—	59	Turnips.....	100	—	90
Potatoes.....	77	—	71	Mangolds, etc.....	92	—	—
Turnips.....	75	—	82	Corn for fodder.....	—	—	100
Mangolds, etc.....	80	—	—	Pasture.....	85	82	83

INTERPRETATION OF CROP REPORTS.

In Table III the condition of crops at the end of July is expressed numerically according to a scale in which 100 represents the average annual yield per acre of the ten years 1908 to 1917. The figures expressing the condition for the whole of Canada are averages weighted according to the areas under each crop in each province. In Table IV the yields indicated by the condition are worked out by provinces and for Canada in bushels per acre and in total bushels. In column 2 is shown the average yield per acre for the ten years 1908-17, in column 3 the numerical condition on July 31, 1918, in percentage of the average yield per acre. Column 4 gives the resulting yield per acre as indicated by the condition, column 5 the acreage as estimated on July 31, 1918, and column 6 the total indicated yield, this being the acreage multiplied by the indicated yield per acre. The table shows that the total yield of wheat, according to its condition on July 31, is estimated at about 232 million bushels and that of oats at about 416 million bushels. As the acreage is subject to revision by the results of the annual collection of agricultural statistics throughout Canada, and as the condition fluctuates as the season advances, the yields given are only estimates of tentative character to be replaced as later and surer data become available. Table V gives similar calculations for the three Prairie Provinces.

IV. Yield of Field Crops in 1918, as indicated by Condition on July 31, 1918.

Field Crops.	Average yield per acre 1908-17.	Condition on July 31 (100 = average yield per acre 1908-17).	Yield per acre as indicated by condition.	Areas sown according to estimate of June 30.	Total yields as indicated by condition.
	bush.	p.c.	bush.	acres.	bush.
Canada—					
Fall wheat.....	23.00	—	15.50	340,700	5,275,700
Spring wheat.....	19.00	77	14.75	15,497,300	227,086,000
All wheat.....	19.25	—	14.75	15,838,000	232,361,700
Oats.....	35.25	85	30.25	13,784,000	416,310,000
Barley.....	27.00	86	23.00	2,403,750	55,128,600
Rye.....	18.25	83	16.50	228,900	3,748,300
Peas.....	16.50	101	16.25	205,730	3,355,300
Beans.....	17.75	95	16.75	105,560	1,755,200
Buckwheat.....	22.50	93	20.75	407,800	8,482,300
Mixed grains.....	32.75	101	35.00	501,400	17,533,100
Flax.....	10.50	71	7.50	927,300	7,026,600
Corn for husking.....	53.75	86	38.25	213,400	8,149,000
Potatoes.....	150.25	95	142.25	686,300	97,716,000
Turnips.....	361.00	96	281.00	216,970	60,981,000
Mangolds, etc.....					
	tons.		tons.		tons.
Hay and clover.....	1.50	—	1.25	8,015,250	10,064,100
Alfalfa.....	2.50	—	1.25	102,900	129,600
Corn for fodder.....	9.25	85	7.50	344,700	2,603,680
Sugar beets.....	9.00	92	8.25	13,200	109,000
P. E. Island—	bush.		bush.		bush.
Spring wheat.....	18.50	101	18.75	37,000	694,000
Oats.....	32.25	99	32.00	207,000	6,624,000
Barley.....	28.25	98	27.75	3,400	94,400
Peas.....	23.00	92	21.25	60	1,300
Buckwheat.....	27.50	94	25.75	2,600	67,000
Mixed grains.....	40.25	102	41.00	7,800	320,000
Potatoes.....	185.00	93	172.00	34,300	5,900,000
Turnips.....	475.75	95	452.00	8,100	3,661,000
Mangolds, etc.....					
	tons.		tons.		tons.
Hay and clover.....	1.50	—	1.60	193,000	308,800
Corn for fodder.....	10.25	91	9.25	240	2,200
Nova Scotia—	bush.		bush.		bush.
Spring wheat.....	19.25	104	20.00	17,300	346,000
Oats.....	31.25	105	32.75	130,000	4,258,000
Barley.....	26.75	101	27.00	4,850	131,000
Rye.....	17.75	99	17.50	300	5,300
Peas.....	24.25	100	24.25	170	4,100
Beans.....	21.75	84	18.25	1,200	21,900
Buckwheat.....	24.00	94	22.50	10,900	245,300
Mixed grains.....	33.75	100	33.75	4,030	136,000
Potatoes.....	189.00	101	191.00	42,600	8,137,000
Turnips.....	413.25	98	405.00	9,300	3,767,000
Mangolds, etc.....					
	tons.		tons.		tons.
Hay and clover.....	1.75	—	1.35	531,000	716,900
Corn for fodder.....	6.00	93	5.58	450	2,500
New Brunswick—	bush.		bush.		bush.
Spring wheat.....	17.75	105	18.75	22,600	424,000
Oats.....	28.25	103	29.00	203,000	5,887,000
Barley.....	25.75	98	25.25	1,900	48,000
Peas.....	17.75	100	17.75	400	7,100
Beans.....	26.00	91	23.75	360	8,600
Buckwheat.....	24.50	99	24.25	62,100	1,506,000
Mixed grains.....	30.00	99	29.75	900	26,800

IV. Yield of Field Crops in 1918, as indicated by Condition on July 31, 1918—con.

Field Crops.	Average yield per acre 1908-17.	Condition on July 31 (100 = average yield per acre 1908-17).	Yield per acre as indicated by condition.	Areas sown according to estimate of June 30.	Total yields as indicated by condition.
	bush.	p.c.	bush.	acres.	bush.
New Brunswick—con.					
Potatoes.....	192.25	96	184.50	44,200	8,155,000
Turnips.....	343.00	97	332.75	7,780	2,589,000
Mangolds, etc.....					
	tons.		tons.		tons.
Hay and clover.....	1.25	—	1.50	557,000	835,500
Corn for fodder.....	11.25	86	9.75	80	780
Quebec—	bush.		bush.		bush.
Spring wheat.....	15.75	106	16.75	338,000	5,662,000
Oats.....	26.25	106	27.75	1,582,000	43,901,000
Barley.....	22.75	104	23.75	172,000	4,085,000
Rye.....	16.00	101	16.25	23,000	374,000
Peas.....	14.75	104	15.25	72,000	1,098,000
Beans.....	17.50	94	16.50	67,300	1,110,000
Buckwheat.....	22.25	98	21.75	171,800	3,737,000
Mixed grains.....	25.75	107	27.50	125,000	3,438,000
Flax.....	9.50	100	9.50	5,500	52,300
Corn for husking.....	28.75	101	29.00	75,800	2,198,000
Potatoes.....	140.50	104	146.00	240,500	35,113,000
Turnips.....	287.25	101	290.00	72,300	20,967,000
Mangolds, etc.....					
	tons.		tons.		tons.
Hay and clover.....	1.25	—	1.40	2,879,000	4,031,000
Corn for fodder.....	8.75	92	8.00	69,030	552,000
Alfalfa.....	2.50	93	1.65	3,600	5,900
Ontario—	bush.		bush.		bush.
Fall wheat.....	23.00	—	16.00	277,200	4,435,200
Spring wheat.....	18.25	118	21.50	158,000	3,397,000
All wheat.....	22.50	—	18.00	435,200	7,832,200
Oats.....	34.00	102	34.75	2,794,000	97,092,000
Barley.....	29.00	103	29.75	361,000	10,740,000
Rye.....	17.50	85	16.50	63,000	1,040,000
Peas.....	16.75	100	16.75	127,000	2,127,000
Beans.....	17.50	96	16.75	36,700	614,700
Buckwheat.....	21.50	85	18.25	160,400	2,927,000
Mixed grains.....	34.50	102	35.25	298,000	11,707,000
Flax.....	14.50	97	14.00	4,100	57,400
Corn for husking.....	56.25	77	43.25	137,600	5,951,000
Potatoes.....	123.25	96	118.25	143,400	16,957,000
Turnips.....	371.75	95	353.25	91,200	23,096,000
Mangolds, etc.....					
	tons.		tons.		tons.
Hay and clover.....	1.50	—	1.15	2,938,000	3,379,000
Alfalfa.....	2.50	—	1.30	48,000	62,400
Corn for fodder.....	9.50	84	8.00	244,000	1,952,000
Sugar beets.....	9.00	92	8.25	13,200	109,000
Manitoba—	bush.		bush.		bush.
Fall wheat.....	21.25	—	17.25	2,000	35,500
Spring wheat.....	17.75	85	15.00	2,616,000	39,240,000
All wheat.....	17.75	—	15.00	2,618,000	39,275,500
Oats.....	35.50	86	30.50	1,545,000	47,123,000
Barley.....	25.75	89	23.00	729,000	16,767,000
Rye.....	18.00	84	15.00	47,000	705,000
Mixed grains.....	31.25	99	31.00	1,300	40,300
Flax.....	11.50	92	10.50	21,700	227,900
Potatoes.....	154.00	98	151.00	36,100	5,451,000

IV. Yield of Field Crops in 1918, as indicated by Condition on July 31, 1918—con.

Field Crops.	Average yield per acre 1908-17.	Condition on July 31 (100= average yield per acre 1908-17).	Yield per acre as indicated by condition.	Areas sown according to estimate of June 30.	Total yields as indicated by condition.
	bush.	p.c.	bush.	acres.	bush.
Manitoba—con.					
Turnips.....	297.25	91	270.50	2,400	649,000
Mangolds, etc.....					
	tons.		tons.		tons.
Hay and clover.....	1.50	—	1.00	74,000	74,000
Alfalfa.....	2.25	—	1.60	3,600	5,800
Corn for fodder.....	5.50	87	4.75	8,300	39,400
Saskatchewan—	bush.		bush.		bush.
Spring wheat.....	18.50	75	14.00	9,101,000	127,414,000
Oats.....	38.25	75	28.75	4,612,000	132,595,000
Barley.....	26.75	78	21.00	663,000	13,923,000
Rye.....	20.75	79	16.50	65,000	1,073,000
Peas.....	21.75	84	18.25	2,500	45,600
Mixed grains.....	32.25	89	28.75	39,500	1,136,000
Flax.....	10.50	73	7.75	724,000	5,614,000
Potatoes.....	152.25	80	121.75	68,400	8,328,000
Turnips.....	255.50	80	204.50	10,500	2,147,000
Mangolds, etc.....					
	tons.		tons.		tons.
Hay and clover.....	1.50	—	0.75	245,000	183,800
Alfalfa.....	2.00	—	0.80	7,500	6,000
Corn for fodder.....	2.75	70	2.00	15,400	30,800
Alberta—					
Fall wheat.....	22.00	—	12.25	58,000	710,500
Spring wheat.....	22.50	69	15.50	3,187,000	49,399,000
All wheat.....	22.50	—	15.50	3,245,000	50,109,500
Oats.....	42.00	68	28.50	2,639,000	75,212,000
Barley.....	28.25	70	19.77	463,000	9,154,000
Rye.....	23.50	77	18.00	30,600	551,000
Peas.....	17.75	81	14.50	1,900	27,600
Mixed grains.....	28.50	99	28.25	23,000	650,000
Flax.....	10.50	59	6.25	172,000	1,075,000
Potatoes.....	161.00	71	114.25	61,600	7,038,000
Turnips.....	250.25	82	205.25	10,800	2,217,000
Mangolds, etc.....					
	tons.		tons.		tons.
Hay and clover.....	1.50	—	0.70	469,000	328,300
Fodder corn.....	1.75	52	1.00	4,800	4,800
Alfalfa.....	2.50	—	1.05	30,500	32,000
British Columbia—	bush.		bush.		bush.
Fall wheat.....	31.00	—	27.00	3,500	94,500
Spring wheat.....	28.75	87	25.00	20,400	510,000
All wheat.....	29.50	—	25.25	23,900	604,500
Oats.....	56.50	89	50.25	72,000	3,618,000
Barley.....	37.25	89	33.25	5,600	186,200
Peas.....	29.25	90	26.25	1,700	44,600
Mixed grains.....	44.50	95	42.25	1,870	79,000
Potatoes.....	206.50	84	173.50	15,200	2,637,000
Turnips.....	457.00	90	411.25	4,590	1,888,000
Mangolds, etc.....					
	tons.		tons.		tons.
Hay and clover.....	2.25	—	1.60	129,250	206,800
Fodder corn.....	8.00	100	8.00	2,400	19,200
Alfalfa.....	3.50	—	1.80	9,700	17,500

V.—Yield of Field Crops in the Prairie Provinces, 1918, as indicated by Condition on July 31, 1918.

Field Crops.	Average yield per acre 1908-17.	Yield per acre as indicated by condition.	Areas sown according to estimate of June 30.	Total yields as indicated by condition.
	bush.	bush.	acres.	bush.
Prairie Provinces—				
Wheat.....	18·25	14·50	14,964,000	216,088,500
Oats.....	38·50	29·00	8,796,000	254,930,000
Barley.....	26·50	21·50	1,855,000	39,844,000
Rye.....	21·25	16·25	142,600	2,329,000
Flax.....	10·75	7·50	917,700	6,916,000
Manitoba—				
Wheat.....	17·75	15·00	2,618,000	39,275,500
Oats.....	35·50	30·50	1,545,000	47,123,000
Barley.....	25·75	23·00	729,000	16,767,000
Rye.....	18·00	15·00	47,000	705,000
Flax.....	11·50	10·50	21,700	227,900
Saskatchewan—				
Wheat.....	18·50	14·00	9,101,000	127,414,000
Oats.....	38·25	28·75	4,612,000	132,595,000
Barley.....	26·75	21·00	663,000	13,923,000
Rye.....	20·75	16·50	65,000	1,073,000
Flax.....	10·50	7·75	724,000	5,614,000
Alberta—				
Wheat.....	22·50	15·50	3,245,000	49,399,000
Oats.....	42·00	28·50	2,639,000	75,212,000
Barley.....	28·25	19·77	463,000	9,154,000
Rye.....	23·50	18·00	30,600	551,000
Flax.....	10·50	6·25	172,000	1,075,000

CROP REPORTS FROM THE PROVINCES.

Prince Edward Island.—Although the crops are late this year owing to the cold spring, the grain is looking exceptionally well, particularly the wheat. Oats promise an average yield. Haying is just beginning. The potato crop is in fine condition, but beetles are numerous. In some districts insects and cutworms have played havoc with turnips.

Nova Scotia.—July has been an ideal month for growth. Rains early in July improved the hay crop to some extent. It will be light but of excellent quality. Frequent showers have materially benefited the grain which should yield high returns. Potatoes and turnips are above the average, but beans and garden vegetables never wholly recovered the June frosts. Haying, which is two weeks later this year, has just begun. The scarcity of labour is keenly felt in some districts.

New Brunswick.—The prolonged wet weather in the early part of the month changed what promised to be only fair grain and hay crops into exceptionally good ones, except on low-lying lands. Hoed crops have suffered from lack of cultivation, owing to excessive rains.

Potato beetles are prevalent. Dry weather at the end of the month was especially good for haying. Labour is scarce.

Quebec.—The prospects for an abundant harvest of all crops in the province are much brighter than at the end of June, for the dry weather at the beginning of July, and the warm rains of the latter part of the month, have improved the outlook in nearly all parts. A large part of the hay has been harvested, haying weather in most places being excellent; but the lack of farm help has been keenly felt, and it is feared that some of the hay will have to be left standing. The hay, though a light crop, is of excellent quality. Old pastures are very poor, but new pastures are much better. In some districts the third week of July was dry, which did damage to the pastures, and the cold weather in June and in the spring also lowered their quality. All garden vegetables, excluding beans, are good but late. Potatoes promise an abundant crop, although the bugs have been troublesome. Paris green is expensive and of poorer quality than formerly. A few correspondents report black rot in potatoes. Many crops of beans were frozen in June, though the warm weather of July was very beneficial. Grains have a fine appearance and promise an exceptionally good crop, though here again the lack of help is greatly felt. All grain will be a little late. The seed for corn was poor, and the crop will not be so good as usual. If no early frosts occur an exceptionally fine harvest may be looked for. All farm animals are in very good condition.

Ontario.—Fall wheat in all parts of the province is almost a complete failure, and in many instances the land was resown to spring wheat and barley. The weather during the early part of July was favourable to all crops, especially spring grains. The latter part of the month was excellent for corn, but the excessive heat and consequent dry weather stunted the growth of most crops. Frequent rains which occurred during the period from July 18 to 26 have greatly improved roots and potatoes. Potatoes in some sections suffered from black blight, potato-bug and green lice, but on the whole should yield an average crop. The continuous warm weather has ripened barley and oats rapidly. Beans are an exceptionally good crop. Buckwheat and flax have been sown extensively this year. New meadows look well, but old meadows and pastures are very poor. Small fruits have done fairly well this year.

Manitoba.—All crops were greatly improved by rains, which came about the middle of July and have continued intermittently ever since. The prospect before the cool, damp weather was poor owing to drought and hot drying winds, which caused considerable drifting of soil, thinning out the crops and preventing growth. The wheat, though light and short in the straw, will be up to the average, as will late oats and barley, which in many parts are ready to cut. Coarse grains and wheat sown on summer fallow were particularly benefited by the rains. Cutworms and grubs on oats and barley, gophers and insects on turnips, beets and potatoes have been troublesome. There were slight frosts about July 24, but they seem to have done very little damage, except to fodder corn, potatoes and garden truck. Hail

occurred in a few districts, but here again the damage was slight. Potatoes are good but small. Hay is thin, timothy and alfalfa being very poor, the rains coming too late to do much good, although in some places the wet weather interfered with haying. Pastures are improving since the rains. There are large numbers of cattle in the province, and they promise well if there is sufficient feed. The harvest on the whole, although it will be late owing to the cool weather following the rains, promises to be well up to the average.

Saskatchewan.—In all parts of the province, but particularly in the south, dry, hot winds resulting in drifting soil and lack of rain prevailed during June and July and did much harm. Summer fallow is the only land which will give a really satisfactory return. In some districts, good rains came on July 16 and from July 23–30, which did great good to late sown barley, oats, wheat and garden vegetables. Frost was experienced in a few places in the south of the province, but did not do nearly so much damage as in the north. Here, in many parts, the wheat and oats are fit for nothing but feed, some fields of wheat being so white and withered that it would not be worth while even to mow them. In some places there is not even seed for oats, and wheat and early sown barley are completely destroyed. The low land was particularly affected by the frosts, which occurred on the nights of July 23, 24, 25 and 26. Where the wheat was not frozen, it is short but of excellent quality. Flax promises a fair crop. Hail did damage on July 19 and 22. Beneficial rains came after the frost, and where the crops were not too badly frozen, did great good. Gophers, cutworms, grasshoppers, potato bugs and weeds have been troublesome. Hay, owing to the drought, is rather scarce, but the grain, being cut for feed, will probably supply this deficiency, and pastures are improving after recent rains. Where oats were destroyed by hail they are being raked as hay. There are large numbers of stock in the province and they promise well if there is sufficient feed. Young pigs have been killed to save feed and cattle have been shipped out. Under the special conditions described, the usual practice of burning straw is deprecated, and some correspondents suggest that this practice should be prohibited, as otherwise stock will have to be killed and sold.

Alberta.—In the southern part of the province the prospects are not very promising for a good harvest. Excessively hot weather with drying winds and no rain, continued for a long time; so that if rain does not come soon the crop in many districts will be practically a total failure. A great quantity of grain sown never came up owing to drought after sowing. In some parts, especially in the more central districts, good rains fell on July 20, 23, 24, and 25, lasting twenty-seven hours in some places and soaking into the ground several inches, especially improving hay and grass conditions. But in most places hay is poor and the feed situation is serious. Alfalfa is an average crop, but timothy in many places is being ploughed under. In northern Alberta much damage has been done by drought and by heavy frosts on July 23, 24 and 25, which did great damage to wheat, oats, barley, potatoes and all garden stuff. Wheat and oats are

being cut for feed, and many farmers will not even get their seed back. Wheat on summer fallow and on higher land was not so badly damaged by the frost as the grains were on low land. Potato-bugs, cutworms, grasshoppers, and green lice on irrigated grain are reported. In central Alberta the prospects are much brighter and throughout the province rain might do much to counteract the bad effects of the frost. Late barley and rye are good and ready for harvesting, and oats may yet yield an average crop in the central parts of the province.

British Columbia.—The grains, hay and clover, and alfalfa in unirrigated areas have suffered greatly from the continued drought which lasted during May, June and nearly all July, but in many districts rains and cooler weather arrived at the end of the month greatly benefiting oats,—which were turning yellow in some districts—other late grains and hoed crops. Apples will be fairly good; plums are a failure, but cherries and bush fruits are excellent. Vegetables and potatoes are fairly good though they suffered from drought, and a few potatoes were injured by frost on July 23. Owing to the drought and unsettled haying weather and also to the high price and scarcity of labour, hay and all feed for cattle will be very scarce; so that many milch cows and other cattle are being sold for beef, and the feed situation in many parts is serious. Grains were cut green for feed in some places. Corn for silage is good on the whole and pastures are improving after recent rains. Gophers have done some damage to the wheat.

TELEGRAPHIC CROP REPORTS.

A summary of telegraphic reports received on the condition of field crops in Canada at the end of July was issued on August 2, 1918, by the Dominion Bureau of Statistics as follows:—

Atlantic Provinces.—**PRINCE EDWARD ISLAND** (Charlottetown): Frequent beneficial showers early in July greatly increased hay crops; heavy crops of cereals; rain has given all hoed crops, except corn, a sturdy vigorous growth. Small fruits below average; large fruits now promising. **NOVA SCOTIA** (Amherst): July weather very unsettled. All vegetation made splendid growth, present prospects for grain and root crops good. Hay only fair, potatoes good, bugs very bad, seed roots good. (Kentville): Rain early in July furnished much needed moisture, and very materially increased the hay yield, which will average 75 p.c. of normal. Grains are exceptionally good; roots are good; corn making strong growth; potatoes promise to be a fair crop. **NEW BRUNSWICK** (Fredericton): During first half of July every day was wet and precipitation totalled five inches. Much crop lost from flooding. An average crop of hay is partly harvested. All other crops on dry land, except wheat and apples, promise a fair yield.

Quebec.—**ROBERVAL** (Chicoutimi and Saguenay): Everything favourable if weather continues fine; hay less than last year, corn good; early sown grain fine; potatoes will give a very good yield. Wheat not successful. **STE. ANNE DE LA POCAIERE** (Kamouraska): Weather unsettled, rather cold, with excessive rainfall; damage to all crops during last half of the month; haying backward; hay an average crop; poor prospect for grain of all kinds; potatoes fair; tree fruits very light. **LENNOXVILLE**: Hay, which is being harvested late this season on account of the wet weather, is giving nearly an average crop. The extra warm weather the latter part of month followed by showers has done much to bring along the corn and other crops. **OKA AND TWO MOUNTAINS** (Vaudreuil, Soulanges): Crops in general abundant. Wheat exceptionally good. Oats and barley good. More smut and lodging than usual. Fodder corn improving since heat, but will not give more than 60 p.c. of good stand. Potatoes promising in spite of disease noticed on wet soils. Peas, beans, and vegetables full crop. Apples, summer varieties, bear lightly, winter practically nothing. **MAKAMIK** (Pontiac): Conditions materially improved by rain and warmth of the last fifteen days, hay especially; it promises average yield; wheat very fine; other cereals good, and yield probably above average; garden potatoes very fine; no damage by frost.

Ontario.—The Ontario Department of Agriculture telegraphs as follows: "Hay about average, cut well cured; fall wheat small yield of good quality; barley excellent yield, but some smut; spring wheat, oats and buckwheat promising; all grains rather short in straw; corn now growing rapidly; beans and peas look better than for years; potatoes and roots promise good yield; field crop averages as a rule are larger than last season." **OTTAWA** (Central Experimental Farm): Hay a fair crop, oats a good crop; spring wheat good, but very little grown; roots promise very well; corn will be a poor crop; it is very late and uneven and the seed was bad; pasture grasses fairly good.

Manitoba.—**BRANDON:** Rain in last week came too late to save wheat, which will be less than half a normal crop. Hay crop a failure from drought; oats and barley very light, but late crops greatly helped by recent rains. **MORDEN:** Weather conditions have much improved; rainfall has been quite ample during the latter half of July. Temperatures are low for the most part, especially at night; no frost, no hail. Wheat promises fair crop, not greater than 15 bushels per acre. Perhaps ten per cent blown out in early season and re-seeded in some instances; oats and barley promise fair crop. Barley promises well, no rust in sight. Hay prospects decidedly poor. Potatoes promise big crop; flax not generally grown, uneven.

Saskatchewan.—The Saskatchewan Department of Agriculture telegraphs as follows: "Southeastern, Regina, Weyburn and South Central Districts: Heavy rains during past week have greatly improved crop outlook; in some places crops are reported as equal to last year. Southwestern District: Crop will average from fair in north to total failure in south. East Central, Northeastern and Northwestern Districts: Heavy frosts 24th and 25th, too early to estimate damage, but afraid it will be very serious as some wheat in blossom stage. Central and West Central Districts: Heavy rains have greatly improved conditions especially north of Regina and Moosejaw. In western part of district crops are reported almost total failure. In all southern parts of province many farmers are selling stock as no feed is available. **INDIAN HEAD:** July warm with heavy showers from 18th to 29th, crop outlook greatly improved; from 1 to 8 degrees frost reported on 24th; corn, potatoes and garden crops slightly damaged in this district; no damage to grain yet apparent, fallow wheat promises good average crop, stubble wheat and early sown oats will be short, late sown oats and barley greatly improved, hoed crops coming along rapidly. No damage from hail reported during month."

Alberta.—The Alberta Department of Agriculture telegraphs as follows: "Considerable damage has been done by frost throughout the central and northern portions of the province during the past week, the full extent of which cannot be ascertained at present, but the indications are that it is not general but more or less irregular. A large portion of the southern part of the province was visited by heavy rains during the past few days, which will do much to revive late crops and pasture lands. Sufficient hay and pasture lands have been located in the northern districts to take care of all applications from the south." **LACOMBE:** First ten days of July hot and dry; rains from 12th proved sufficient to carry crops and improve pastures; frost night of 23rd damaged crops in many points. From Wetaskiwin north and east and from Stettler east crop outlook poor to fair. **LETHBRIDGE:** Drought in southern Alberta partly broken by rains which were general during week beginning 21st, but as less than an inch fell more must come at once to improve conditions much, though it will aid in filling of grain; everything failure except that sown on summer fallow; cutting commenced.

British Columbia.—**AGASSIZ:** Weather conditions during July hot and comparatively dry; crop prospects somewhat improved over June; harvesting of cereals just started; fall wheat promises good crop. **INVERMERE:** Crops under irrigation very good, dry farming a failure. Alfalfa first cutting particularly good, second crop promises well; clover peas, potatoes very good, roots and wheat good, oats and barley fair. **SIDNEY:** Autumn cereals cut, will thresh an average yield. Spring cereals short and ripening fast; corn and root crops below average; stock seeds very short; live stock at present in good condition.

CROP REPORTS FROM PROVINCIAL GOVERNMENTS.

Ontario.—The Ontario Department of Agriculture reported (July 29) that hay was practically all cut and housed. The crop was barely an average one, but the quality was generally good, as the weather was favourable for curing. The second crop of clover had started well, but the fields needed rain. Alsike was reported to be yielding plenty of seed. Many farmers had already cut their second crop of alfalfa. Fall wheat was turning out rather better than was expected, both as to yield and quality, although Essex reports that early threshing had found some rather soft grain.

The report on August 5 stated that some of this season's cut of fall wheat had been offered on the market in Essex, and most of it was of good quality. Much of the fall wheat, however, would be kept for seed, as with the harvest earlier than usual there was likely to be more time given farmers for preparing the land and getting in a larger acreage of this crop than was put in a year ago. Peas were a surprisingly good crop. Yields of forty bushels per acre are reported from Prince Edward, where the crop was being raised for the canneries. Beans were also a most promising crop, but just now badly needed rain.

On August 12 harvesting was reported to be at its height. Fall wheat and barley were practically all cut and considerable quantities threshed, and large yields of both are reported from various parts of the province. The cutting of oats and spring wheat was also well under way and good returns from both of these were sure. The showers of the latter part of the week appear to have been fairly general and did much good, especially to the corn and roots. Blight in potatoes was represented as doing considerable harm in some sections. Preparations for fall wheat seeding were under way, and some counties reported the outlook as being favourable to an increased acreage, although the dry weather had made ploughing difficult except where tractors were available. The live stock situation was about normal, taking into account the condition of the pastures as a result of the dry weather. There had naturally been a decrease in the milk flow. The demand for labour was now also at its height, but reports generally indicate that it was being fairly well met. The very general extent to which harvest leave had been granted was proving a big factor in the labour situation, and there was every assurance that a splendid crop would be satisfactorily harvested. The assistance of men and women from the towns and cities, however, was counted on in some sections.

The report of August 19 stated that most of the barley and spring wheat, and a considerable portion of the oats, had been cut and stooked, and some threshed. More than usual of the threshing had been done in the open owing to the favourable weather prevailing. Barley was turning out a first-class crop, both as to yield and quality. The yield would be well above the average, some fields going as high as 65 bushels to the acre. Spring wheat had done so well that it was likely to become a more established crop with some who have been neglecting it. Marquis and Goose were the varieties mainly grown this season. Oats also were a bumper crop, and will be considerably over the average in yield per acre. Essex and Kenora report some fields running as high as 80 and 90 bushels to the acre. There would also be a fair crop of excellent straw. Buckwheat on the whole gave promise of being a fair crop. Peas for canning and seeding purposes had done well, but the vines of the latter varieties were affected by the drought and intense heat. The second growth of clover, which started well, had been somewhat checked by drought, but recent rains had helped conditions. Corn had been growing remarkably fast during August, and with favourable weather should do much better than in 1917 or the preceding year. Potatoes were not a uniform crop, but on the

- whole had done fairly. The tubers so far were remarkably clean, but the drought had checked growth. There were complaints of blight and other diseases, but there was remarkable freedom from rot. Field roots were not so promising as early in the season, being much in need of rain. The fall wheat cut this summer, although very small in yield per acre, was on the whole of excellent quality, and would provide good seed for the new crop. The ground had been dry and hard for ploughing, but considerable land had already been prepared for this fall's sowing. Tractors were very busy and had much work arranged for ahead.

Alberta.—During the month of August, the Alberta Department of Agriculture telegraphed as follows: August 10. Recent rains throughout the southern country have made a material improvement in crop conditions. In certain districts of the south where the prospects were poor two weeks ago, heavy rains have fallen and the grain is now filling nicely. On account of this moisture the feed situation in many localities is greatly relieved and conditions are much more encouraging than they have been for some time. Over a considerable area of the southeastern part, however, there has been no rain, with the result that farmers generally in this area are looking north for feed. Many of the southern stockmen are now in the North either putting up hay themselves or contracting for it in the stack. There is a large amount of green feed available on account of the early July frost, but up to the present time the stockmen do not seem to be in a hurry to purchase feed. On the other hand, farmers hesitate to cut this feed until there is a market in sight for it. Immediately after the frost it was apparent that the greater portion of the wheat and barley crop was destroyed. As the season advances, some improvement is noticeable. On the high ground where the wheat and barley was well advanced before the frost, a proportion of the heads are filling and in the isolated cases where very early varieties were sown there will be a 30 p.c. or 40 p.c. crop. The rains which have fallen throughout the north country have helped the wheat to keep its colour well. Over a good deal of the frozen area the wheat which is standing is still a good colour and will make very good winter feed. Where it has been possible for farmers to secure a market they are now busily engaged in cutting. Some cutting of ripe grain hay commenced in the south country, but cutting will not be general for a few days yet.

August 17. During the past week crop conditions have continued to improve in the southwestern part of the province. Crops on summer-fallowed land have filled well. Wheat cutting in this area is now general. Oats and barley were sown generally on spring or fall ploughing and will be a light yield throughout the south. In districts not affected by the frost, wheat on summer-fallowed land will yield between 20 and 25 bushels per acre. That on spring and fall ploughing will be light. Some improvement is noticeable in crops throughout the frozen area. Oats give evidence of a good average yield. It is too soon to determine whether frost has affected the germination of these oats for seed purposes. This cannot be determined until after threshing, when the germinating qualities of oats will be tried out.

INFLUENCE OF THE WEATHER UPON THE GROWTH OF SPRING WHEAT.

The accompanying table presents the data collected during July from Crop Correspondents in continuation of the records published in the Bulletin of May, 1918, p. 136, June, 1918, p. 171 and July, 1918, p. 201. For the month of July, the observations had reference to the dates (1) when heading was general; (2) of flowering stage; (3) of reaching milk-stage; (4) of first cutting; (5) when cutting was general and (6) of completion of cutting.

Dates of Heading, Flowering, Milk-stage and Cutting of Spring Wheat, 1918.

Province and District.	Heading general.						Flowering Stage.						Milk-stage.						First Cutting.		Cutting General.	
	No. of re-plies.	July 1-7	July 8-14	July 15-21	July 22-31	No. of re-plies.	July 1-7	July 8-14	July 15-21	July 22-31	No. of re-plies.	July 1-7	July 8-14	July 15-21	July 22-31	No. of re-plies.	July 15-21	July 22-31	No. of re-plies.	July 22-31	No. of re-plies.	July 22-31
Prince Edward Island.....	26	-	-	5	21	3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Nova Scotia.....	48	4	4	18	22	18	-	-	1	3	14	5	-	-	-	5	-	-	-	-	-	-
New Brunswick.....	32	2	5	10	15	11	-	-	-	3	8	3	-	-	-	3	-	-	-	-	-	-
Quebec.....	262	32	53	131	46	125	1	10	51	54	107	-	1	26	80	-	-	-	-	-	-	-
Eastern Ontario.....	14	4	7	2	1	7	-	2	5	-	-	9	-	3	6	2	-	-	2	-	-	-
Central Ontario.....	3	2	1	-	-	5	1	2	2	-	-	7	-	1	4	2	-	-	3	-	-	-
Southern Ontario.....	13	8	3	3	1	17	1	5	4	3	16	1	1	1	5	9	-	-	5	-	-	-
Western Ontario.....	21	8	9	14	3	16	3	3	9	2	18	-	3	6	9	4	-	-	2	-	-	-
Northern Ontario.....	26	1	8	14	3	16	-	-	-	7	10	-	-	1	14	-	-	-	-	-	-	-
North Manitoba.....	58	5	22	29	2	50	-	3	15	32	15	-	-	4	18	-	-	-	-	-	-	-
South Manitoba.....	51	11	23	14	3	36	-	7	16	13	22	-	-	5	24	-	-	-	-	-	-	-
North Saskatchewan.....	96	18	26	44	8	73	-	11	25	37	29	-	-	7	22	-	-	1	-	-	-	-
South Saskatchewan.....	77	14	23	32	2	5	-	10	27	22	20	-	-	1	4	-	-	-	-	-	-	-
North Alberta.....	43	6	16	10	2	35	2	2	12	17	17	-	1	1	12	-	-	4	-	-	-	-
South Alberta.....	26	12	9	4	1	24	3	6	12	3	15	-	-	1	6	8	-	-	-	-	-	-
British Columbia.....	15	6	6	3	-	13	-	3	7	3	11	-	-	1	1	-	-	1	-	-	-	-

¹Including one during week July 15-21.

The table tells its own story with regard to heading, flowering and the milk-stage. The earliest record of cutting was in the third week of July for western Ontario and British Columbia. Only a few replies report cutting as general during the last week of July and these were from Ontario, though one reply from British Columbia was for the week ended July 21. Two correspondents in British Columbia report the completion of cutting in their districts, one by July 25 and the other by July 30.

DOMINION EXPERIMENTAL FARMS AND STATIONS.

Central Farm, Ottawa.—The weather during the first half of July was cool and showery, but the rest of the month has been warm and also dry, except for showers on the 27th and 30th. The highest temperature recorded is 96, the lowest 47 and the mean 69·97; while a year ago the highest was 97·7, the lowest 50 and the mean 70·60. The precipitation, which is considerably more than the average of the past seven years, totals 3·38 inches, distributed over sixteen different days, the heaviest rainfall being 1·42 inch on July 1; while during the corresponding period a year ago the amount was 2·87 inches. The bright sunshine averages 9·14 hours a day, which, although considerably more than a year ago, is less than the July average for some years past.

At the Central Farm, oats at the close of July are just ready to cut and should yield a heavy crop both on the Experimental Farm and in the district generally. Hoed crops have picked up considerably, and, with the exception of Indian corn, which is still backward, should give good returns. Most of the hay, which is a light crop, has been harvested during the month, the yield on the Experimental Farm being over $2\frac{1}{4}$ tons per acre, and in the district generally averaging considerably less than this.

Charlottetown, P.E.I.—J. A. Clark, Superintendent, reports:—"Beneficial showers have occurred on thirteen different days in July. Hail has been reported from several localities; but the areas where there has been serious injury are quite restricted and the total damage is slight. The hay and pastures improved wonderfully after the rain and will be quite up to the average. The cereal crops at present are above the average and there are only slight indications of injury from fungus. Corn is late and backward. Other hoed crops promise yields above the average, mangolds and potatoes looking particularly well. Fruits are not up to the average, except the wild ones, which are reported to be plentiful. Injurious insects are very numerous."

Kentville, N.S.—W. S. Blair, Superintendent, reports:—"Conditions during July have been normal. Abundant rains from the 3rd to the 8th, aggregating 3·57 inches, most of which soaked into the ground, furnished much needed moisture to growing crops. The precipitation for the month amounts to 4·90 inches. The hay crop, as a result of the rains, has materially improved and will probably average 75 p.c. of a normal yield. Owing to more or less broken weather, haying is not far advanced, and the bulk of it will be harvested

during August. All grain crops are exceptionally good, the season being ideal for all cereals. Roots are also exceptionally good. Corn has made slow growth, but the warmer weather during the latter part of the month has greatly improved this crop. Potatoes are just fair, and early blight is noticeable in many places. The bean crop does not promise to be very great. The fruit outlook is hardly as bright as in June, considerable scab having developed during the month, and prospects are that the yield will not be above 400,000 barrels."

Nappan, N.S.—W. W. Baird, Superintendent, reports:—"The first three weeks of July were not at all summer-like, the weather being dull and showery. The last week, however, has been very fine and warm. The total precipitation for the month is 3.43 inches. This rainfall has been very beneficial to the grain. Considerable time has been spent at cultivating stecklings, etc. In picking the strawberries, only fair yields of the fruit have been had; but a market has been found for all berries and a good price has been obtained. Haying commenced during the last week of the month. Part of the hay on the field known as "B1", five-year rotation, was cut, raked, coiled and part of the crop stored in the barn."

Fredericton, N.B.—W. W. Hubbard, Superintendent, reports:—"July gave five inches of rainfall in the first fifteen days and drowned out crops on much low-lying land. Every day of the fifteen gave more precipitation and prevented cultivation, allowing weeds to over-run crops and causing damage. The latter part of the month has been foggy and cloudy, but, outside of a few thunder storms no rain has been experienced. Hay harvesting is well started at the end of July, and an average crop is being secured. Grain, where not drowned out, is looking well—with the exception of wheat, which is attacked pretty badly with glume spot. Potatoes promise an average yield. Fodder corn is very poor. Pastures are keeping up well, and dairy production is, consequently, good. There is a lively interest in sheep raising, and many new flocks will be started this year. A considerable number of pig clubs have been started among boys and girls, and there is a keen demand for pure-bred swine of both sexes."

Ste. Anne de la Pocatière, Que.—Jos. Begin, Superintendent, reports:—"July has been exceedingly cool and rainy, compared with the same month in previous years. The precipitation totals about the same as that for this period in the three previous years. The highest temperature recorded is 87.2, the lowest 38.6 and the mean 59.7, compared with extremes of 89.2 and 42.2 and a mean temperature of 61.6 last year. The rainfall totals 6.73 inches, distributed over fourteen days, as against 2.29 inches in July, 1917, divided up among eight days. The bright sunshine averages 7 hours a day compared with 8.7 hours a day last year. The month has been characterized by heavy winds and rains. Lightning and hail storms have also been frequent and damage to grain is reported from places around the Station. Seven acres of wheat sown in April suffered considerably, having been levelled to the ground several times during the month. It is feared that the yield of some very promising fields will be lessened

considerably. Haying has been difficult, and, in the district, not more than 30 p.c of the crop has been harvested during the month; at the Station, 80 p.c. has been harvested, the yield being a good average one."

Cap Rouge, Que.—G. A. Langelier, Superintendent, reports:—"Comparing July with the average of the same month for the last six years, it has been slightly warmer, much wetter, and a little duller than usual, the figures being, respectively, 66.69 and 66.40 for the mean temperature, 6.96 and 4.19 inches for rain, 231 and 239.8 hours of sunshine. The crop of hay on new meadows is above the average, but much below on old meadows; this is a splendid object lesson for farmers. At the Station, a good deal of the work has consisted in checking weeds by cultivation and hoeing. Haying is practically finished here, and it is about half done in the district. The prospects are excellent for everything, except corn for silage, which will be poor."

Lennoxville, Que.—J. A. McClary, Superintendent, reports:—"The weather during the last half of July has been very warm, the thermometer registering 80 or higher on ten different days since the 15th, and on two days reaching 90. The minimum temperature is 38, compared with 41 last year; while the mean is 65.85, compared with 67.61 a year ago. The precipitation amounts to 2.62 inches, as against 3.97 inches last year, most of it being recorded from the 7th to the 17th. The bright sunshine totals 208.5 hours, compared with 216.1 hours in July a year ago. The cool weather and the excessive amount of rain, which fell on thirteen of the first seventeen days of the month, retarded haying and also the corn and other crops; but the exceedingly favourable weather which has prevailed since has given farmers an opportunity to save a good part of their hay in excellent condition, and the cut is exceeding the amount which was expected in the early part of the month. Corn is still backward and the prospects are that the yield will be very light in this district. Potatoes, swedes and other root crops are looking well. Although there is a shortage of labour for the harvesting of the hay crop, farmers, by using larger implements, hay loaders, etc., are finishing their haying in much better time than it was generally feared would be the case. The apple crop in this district is very light, no doubt due to the fact that so many of the fruit trees were injured by the severe frosts experienced in the district during the past winter."

Brandon, Man.—W. C. McKillican, Superintendent, reports:—"The drought, which had such serious effects during June, continued during the first three weeks of July. As a result, the wheat crop will be very poor, averaging probably about one-third of the normal. Early oats and barley are injured quite as badly. Late sown oats and barley have escaped much better and will be perhaps two-thirds of a normal crop. During the week of July 22nd-27th, generous rains fell. This moisture will be of great help to corn, roots, potatoes and pasture, and also to late oats and barley. Some of the best of the early wheat will fill better on account of the rain, but much

of it was beyond help when the rain came. On the Experimental Farm, the cultivation of fallows and hoed crops, the harvesting of hay and the ploughing of sod land have been the principal lines of work engaging attention."

Indian Head, Sask.—W. H. Gibson, Superintendent, reports:—"The month of July has been warm, with heavy showers from the 18th to 29th, which have made a great improvement in all crops throughout this district. Summerfallows and late sown oats and barley now promise a fair average crop; but in many places the rain came too late to improve greatly the crops on stubble and on spring and fall ploughing. On the night of the 24th, frost visited this locality, doing some damage in low spots, but in this immediate district no apparent injury has been done to any grain. Fodder corn and potatoes show some damage. All hoed crops have been greatly benefited by the rains."

Rosthern, Sask.—Wm. Munro, Superintendent, reports:—"The dry weather of June and July has affected the hay crop, but rains late in July have revived the grain, so that yields are up to the average. This applies to the Rosthern district and north, but not to the area south of here. Frost on the mornings of the 25th and 26th injured the leaves of tomatoes and potatoes on the Experimental Station, and, in isolated localities in the district, injured grain. Reports covering the territory extending twenty miles south of Rosthern and twenty to sixty miles west, indicate that the injury was done to the grain crop probably to the extent of 50 p.c. Currants and raspberries have given average yields this year, but strawberries were badly winter-killed. The vegetable garden is better than ever before at this Station."

Scott, Sask.—M. J. Tinline, Acting Superintendent, reports:—"The first beneficial rain of the season fell on July 27. This precipitation appears to have been general over the drought-stricken areas. Late crops are much benefited and heavier yields will be secured from early maturing crops. Severe frosts from the 24th to the 26th caught much wheat in the flowering stage and the loss will be serious. Potato vines were badly frozen, and, unless the early autumn is free from damaging frosts, potatoes are likely to be very scarce. A good crop of strawberries is being harvested, and, approximately, half an average crop of currants and other small fruits. Several farmers' excursions to the Station have taken place during the month."

Lacombe, Alberta.—G. H. Hutton, Superintendent, reports:—"The early days of July were hot and dry. Rain on the 12th, amounting to three-quarters of one inch, relieved the drought materially, and two showers coming later and totalling about an inch, carried crops without deterioration due to dry weather until the end of the month. The highest temperatures ever recorded at this Station were registered during July, the maximum being 92.8. Frost on the night of the 23rd did serious damage to crops all through that section of central Alberta extending from Wetaskiwin north and east, from points on the Canadian Pacific Railway, approximately forty

miles east of Lacombe to the boundary. Serious hay shortage in the south-central and southern sections of the province has been met by the shipping of stock north and reduction of freight rates on hay from the north to the south. Recent rains have improved the pasture situation, and stockmen are feeling much more confident in regard to fall rain than they did two weeks ago."

Lethbridge, Alberta.—W. H. Fairfield, Superintendent, reports:—"The weather during July has remained very dry. Only 0.85 of an inch of rain has been recorded, and, consequently, crops all over southern Alberta are very poor. Except in a few rare cases, the only ones that are likely to be worth cutting are those sown on summer-fallow. In the drier localities, even grain sown on summer-fallow will produce very little crop. Hay, except on irrigated land, is nil. The grass on the ranges has been so poor that both sheep and cattle men are being forced to move their stock either to the mountains or farther north in the province. The rains beginning on the 22nd promised to relieve the feed situation by bringing on the late sown crops; but, without much more rain following immediately, the effect of these showers will not amount to much. No frost has occurred, although the thermometer went down to 35 on one occasion."

Invermere, B.C.—G. E. Parham, Superintendent, reports:—"Dry weather has continued throughout July, and, although showers have been recorded on eleven days, with a total precipitation of 1.32 inch, sufficient rain has not fallen at any one time to be of any appreciable benefit. The bright sunshine, some of which has been recorded every day except the 26th, totals 304 hours. Temperatures have been about normal, but night frosts on the 3rd and 4th did some damage to potatoes and tender vegetables in the district. Where irrigation has been practised, the hay crop in this valley has been exceptionally heavy, and conditions have been favourable for haying. At the Experimental Station, irrigation has been continuous throughout the month, and some heavy cuts of alfalfa and clover have been harvested. In the bee division, extracting honey has commenced; and the yield promises to be above the average."

Summerland, B.C.—R. H. Helmer, Superintendent, reports:—"The early part of July was exceedingly dry and a great shortage of irrigation water was feared, as the creeks dried up earlier than usual. Two good rains however on the 10th, with a total precipitation of 0.87 of an inch, helped the situation considerably. On the whole, the month has been much cooler than this time last year, although there has been one or two very hot spells. Peaches and apricots are now coming in, and the yield is better than at first anticipated. The apple crop is short and may not reach one-half of last year's output. This condition seems to be general throughout the province. The hay crop is short. The second crop of alfalfa has been gathered."

Agassiz, B.C.—W. H. Hicks, in charge, reports:—"Weather conditions during July have been somewhat better than prevailed in June. The total precipitation recorded, 2.28 inches, is only one-tenth of an inch less than the average for the past twelve years. On

account of the extreme drought which prevailed in April and June, this very limited shortage of moisture is more seriously felt than would be expected. The hay crop is a poor one, but, generally speaking, it has been saved in good condition. Some fall wheat and spring sown cereals have been harvested. The former is a good crop, while the latter is a fair one. Potatoes and mangolds have much improved and promise fair yields. The turnip crop is a complete failure, while corn is very poor."

Sidney, Vancouver I., B.C.—Lionel Stevenson, Superintendent, reports:—"The dry conditions of the three preceeding months continued through July. Autumn cereals ripened well, were cut, and will thresh out an average yield. Spring cereals have ripened before making full development, and, in consequence, will yield much below average. Corn and roots have not developed well, excepting where planted on moist areas. The raspberry and currant plantations have given average yields. Apples, pears, and plums are a fair crop. Sweet and sour cherries have given good yields. The live stock of the district is in good condition. Pasturage has dried up and supplementary feeding of dairy cows has been necessary. Young poultry stock has grown well, but its numbers will be reduced owing to the high cost of feed."

Meteorological Record for July, 1918.

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of July are given in the following table:—

Experimental Farm or Station at—	Degrees of Temperature F.			Precipitation in inches.	Hours of Sunshine.	
	High-est.	Low-est.	Mean.		Possible.	Actual.
Ottawa, Ont.....	96.0	47.0	69.97	3.38	473	283.4
Charlottetown, P.E.I.....	83.0	46.0	65.03	4.53	476	181.9
Kentville, N.S.....	88.0	45.0	65.43	4.90	472	197.8
Nappan, N.S.....	81.0	38.0	63.98	3.43	474	177.2
Fredericton, N.B.....	90.0	48.0	66.30	5.57	475	122.9
Ste. Anne de la Pocatière, Que.....	87.2	38.6	59.70	6.73	481	217.1
Cap Rouge, Que.....	88.0	46.2	66.69	6.96	479	231.0
Lennoxville, Que.....	90.0	38.0	65.85	2.62	473	208.5
Brandon, Man.....	97.0	37.0	60.60	2.47	491	225.0
Indian Head, Sask.....	96.0	31.0	61.65	1.96	494	242.8
Rosthern, Sask.....	93.6	30.6	61.73	2.50	507	330.2
Scott, Sask.....	98.0	27.0	61.60	1.87	505	323.4
Lacombe, Alberta.....	92.8	32.9	61.54	1.24	505	296.9
Lethbridge, Alberta.....	94.2	35.0	62.60	0.85	491	314.2
Invermere, B.C.....	94.0	34.0	62.87	1.32	494	304.0
Summerland, B.C.....	100.0	48.0	68.69	1.16	492	234.2
Agassiz, B.C.....	94.0	41.0	64.20	2.28	489	198.4
Sidney, Vancouver I., B.C.....	84.0	44.0	62.50	0.96	486	287.1

J. H. GRISDALE,
Director Experimental Farms.

Ottawa, August 12, 1918.

CROP REPORTS FROM OTHER COUNTRIES.

England and Wales.—The Board of Agriculture reported (July 1) that the weather had been generally cold and dry, and the lack of moisture had checked growth, particularly on light soils. Wheat promised to be the best of the cereal crops; it had made good progress, and was then coming well into ear. In some districts spring wheat had suffered from the drought. The yield in nearly all districts was expected to be over the average. Barley for the most part looked well, but had suffered from the absence of rain, particularly on sandy soils, and was not expected to give an average yield. Oats were not so promising and had suffered from the drought and wireworm, and the yield was likely to be below average. Straw was generally short. Beans and peas were satisfactory, and should give an average crop. Summarizing the returns and expressing an average crop by 100, the condition of the crops on July 1 indicated probable yields per acre which may be denoted by the following percentages:—Wheat, 103; barley, 98; oats, 95; beans, 101; peas, 99; potatoes, 100; mangolds, 93; seeds hay, 99; meadow hay, 97; hops, 70.

United States.—The Crop-Reporting Board of the United States Department of Agriculture issued, August 8, estimates of the yield of the principal field crops with a statement of average condition on August 1, as compared with previous years, as in the following table:

Crops.	Condition in per cent of normal.			Total yield in millions of bushels, tons, lb. or bales.			
	August 1, 1917.	July 1, 1918.	August 1, 1918.	1917 final.	July forecast ¹	August forecast ¹	1912-16 average
	p.c.	p.c.	p.c.	bush.	bush.	bush.	bush.
Winter wheat.....	—	—	—	418	557	556 ²	552
Spring wheat.....	68.7	86.1	79.6	233	334	322	257
All wheat.....	—	—	—	651	891	878	809
Corn.....	78.8	87.1	78.5	3,159	3,160	2,989	2,761
Oats.....	87.2	85.5	82.8	1,587	1,437	1,428	1,296
Barley.....	77.9	84.7	82.0	209	230	232	202
Rye.....	—	80.8	—	60.1	81.6	76.7 ²	44.5
Buckwheat.....	92.2	—	88.6	17.5	—	20.6	15.3
White potatoes.....	87.9	87.6	79.9	443	406	391	362
Sweet potatoes.....	84.8	86.4	78.3	87.1	92.1	84.5	63.5
Flax.....	60.6	79.8	70.6	8.5	15.8	14.8	17.6
Rice.....	85.0	91.1	85.7	36.3	43.4	41.6	28.9
				tons	tons	tons	tons
Hay.....	84.6	82.2	82.3	94.9	102	99.3	95.4
Sugar beets.....	90.3	87.7	88.6	5.98	6.25	6.36	5.97
				lb.	lb.	lb.	lb.
Tobacco.....	88.1	83.1	83.6	1,196	1,187	1,228	1,033
				bales	bales	bales	bales
Cotton.....	70.3	85.8	73.6	11.3 ³	15.3	13.6	13.3

¹Interpreted from condition reports.

²Preliminary estimates.

³Census figures.

The forecast of the total wheat crop, according to the condition of spring wheat on August 1 and the preliminary estimate of fall wheat, is a total yield of 878 million bushels, which is 227 million bushels more than the final estimate for 1917 and 69 million bushels above the annual average for the five years 1912-16. The total yield of corn is placed at 2,989 million bushels, as against 3,159 million bushels last year and 2,761 million bushels, the average for the years 1912-16. Oats are estimated at 1,428 million bushels, as compared with 1,587 million bushels last year and 1,296 million bushels the quinquennial average. On the whole, present conditions point to a harvest greatly superior to that of last year and in the case of all crops, excepting flax, superior also to the average of the five years 1912-16. The total area of the crops in the table comes to 349,402,900 acres, as compared with 337,409,300 acres in 1916.

The quantity of oats remaining on farms on August 1 is estimated at 5.1 p.c. of last year's crop, or about 80,504,000 bushels, as compared with 47,834,000 bushels on August 1, 1917, and 74,119,000 bushels, the average of stocks on August 1 for the five years 1912-16.

INTERNATIONAL INSTITUTE OF AGRICULTURE.

From the July number of the Monthly Bulletin of Agricultural and Commercial Statistics, issued by the International Institute of Agriculture, are taken the following notes on the condition of crops in European countries at the beginning of July, the yield of corn in South Africa and the numbers of cattle in India.

Condition of Crops.—In Italy the ripening of wheat and other cereals has been delayed by rains, but these have been favourable to the growth of corn. In Switzerland the condition of winter cereals has improved during the month. Spring crops have been delayed by drought. Oats are variable. On the whole, spring crops are below average. In Egypt the weather has been generally favourable, though hot winds have damaged the unripe wheat crop in Upper Egypt. The yield is slightly below that of last year. Barley is yielding appreciably above average, and a large increase in the area under rice may be expected if the water supply is plentiful. In Morocco rains at the beginning of May, were very beneficial. Spring crops look well.

Yield of Corn in South Africa, 1917-18.—Corrected data for the corn crop of South Africa show the yield of 1917-18 to be 42,143,000 bushels, as compared with 30,357,000 bushels in 1916-17 and 29,917,000 bushels, the average from 1911-12 to 1915-16. The return for 1917-18 is 38.8 p.c. above that of 1916-17 and 40.9 p.c. above the average.

Cattle Statistics of India.—In the British Provinces the number of bulls and oxen in 1916-17 are returned as 49,416,000, as compared with 49,085,000 in 1915-16; cows number 37,617,000, as against 37,772,000, buffalo bulls 5,581,000, as against 5,564,000, buffalo cows 13,699,000, as against 13,642,000 and calves of all sorts 43,112,000, as against 42,886,000.

NUMBERS OF PURE-BRED LIVE STOCK IN THE PRAIRIE PROVINCES.

The recently-issued Report on the Census of the Prairie Provinces contains a table showing by breeds the numbers of pure-bred horses, cattle, sheep, swine and poultry in each of the three provinces in 1916. By comparing the figures in this table with similar data, compiled for the first time in connection with the Census of 1911, we measure the expansion which has occurred in this direction during the five years. The results are shown in the accompanying tables.

I. Numbers of Pure-bred Horses, Cattle, Sheep and Swine in the Prairie Provinces, 1911 and 1916.

Province and Breed.	1911	1916	Increase (+) or decrease (-).	Province and Breed.	1911	1916	Increase (+) or decrease (-).
MANITOBA.	No.	No.	No.	Swine—	No.	No.	No.
Horses—				Yorkshire.....	2,385	2,035	-350
Thoroughbred....	43	71	+28	Berkshire.....	1,995	2,716	+721
Standard bred....	295	194	-101	Chester White...	62	284	+222
Hackney.....	37	58	+21	Tamworth.....	363	325	-38
French Canadian	10	12	+2	Poland China....	145	462	+317
Clydesdale.....	2,923	4,663	+1,740	Hampshire.....	20	17	-3
Shire.....	90	71	-19	Duroc Jersey....	33	691	+658
Suffolk Punch...	9	10	+1	Not specified....	532	254	-278
Percheron.....	245	453	+208	All other.....	2	23	+21
Belgian.....	16	38	+22				
Not specified....	278	1,895	+1,617	Total.....	5,537	6,807	+1,270
All other.....	88	53	-35				
Total.....	4,034	7,518	+3,484	SASKATCHEWAN.			
Cattle—				Horses—			
Shorthorns.....	7,592	9,898	+2,306	Thoroughbreds..	69	106	+37
Hereford.....	745	1,470	+725	Standard Bred..	236	563	+327
Red Polled.....	122	183	+61	Hackney.....	69	133	+64
Aberdeen Angus.	631	1,147	+516	French Canadian	12	5	-7
Galloway.....	152	145	-7	Clydesdale.....	2,940	6,684	+3,744
Ayrshire.....	291	563	+272	Shire.....	96	196	+100
Holsteins.....	415	1,434	+1,019	Suffolk Punch...	117	57	-60
Jersey.....	356	356	-	Percheron.....	634	1,602	+968
Guernsey.....	12	29	+17	Belgian.....	56	324	+268
Not specified....	526	558	+32	Not specified....	176	268	+92
All other.....	6	6	-	All other.....	27	135	+108
Total.....	10,848	15,789	+4,941	Total.....	4,432	10,073	+5,641
Sheep—				Cattle—			
Cotswold.....	110	55	-55	Shorthorns.....	3,359	7,039	+3,680
Leicester.....	194	588	+394	Hereford.....	879	2,021	+1,142
Lincoln.....	-	3	+3	Red Polled.....	22	202	+180
Oxford Down....	271	1,280	+1,009	Aberdeen Angus.	249	772	+523
Shropshire.....	537	1,158	+621	Galloway.....	52	92	+40
Southdown.....	7	23	+16	Ayrshire.....	176	426	+250
Suffolk.....	13	336	+323	Holsteins.....	192	1,643	+1,451
Hampshire.....	-	2	+2	Jersey.....	184	433	+249
Dorset.....	10	85	+75	Guernsey.....	2	2	-
Not specified....	124	66	-58	Not specified....	171	460	+289
All other.....	56	-	-56	All other.....	-	2	+2
Total.....	1,322	3,596	+2,274	Total.....	5,286	13,092	+7,806

I. Numbers of Pure-bred Horses, Cattle, Sheep and Swine in the Prairie Provinces, 1911 and 1916—con.

Province and Breed.	1911	1916	Increase (+) or decrease (-).	Province and Breed.	1911	1916	Increase (+) or decrease (-).
No.	No.	No.	No.	No.	No.	No.	No.
Sheep—				ALBERTA—con.			
Cotswold.....	14	53	+39	Sheep—			
Leicester.....	155	510	+355	Cotswold.....	24	188	+164
Lincoln.....	—	9	+9	Leicester.....	155	36	-119
Oxford Down....	63	510	+447	Lincoln.....	31	53	+22
Shropshire.....	258	1,325	+1,067	Oxford Down....	207	904	+697
Southdown.....	3	86	+83	Shropshire.....	549	2,306	+1,757
Suffolk.....	6	82	+76	Southdown.....	56	57	+1
Hampshire.....	17	4	-13	Suffolk.....	154	331	+177
Dorset.....	—	15	+15	Hampshire.....	146	205	+59
Not specified....	20	233	+213	Dorset.....	—	5	+5
All other.....	50	181	+131	Not specified....	50	20	-30
				All other.....	—	687	+687
Total.....	586	3,008	+2,422	Total.....	1,372	4,792	+3,420
Swine—				Swine—			
Yorkshire.....	1,635	3,087	+1,452	Yorkshire.....	2,120	1,284	-836
Berkshire.....	918	3,970	+3,052	Berkshire.....	1,771	6,466	+4,695
Chester White...	42	287	+245	Chester White...	23	81	+58
Tamworth.....	64	310	+246	Tamworth.....	141	548	+407
Poland China....	93	742	+649	Poland China....	215	931	+716
Hampshire.....	2	40	+38	Hampshire.....	2	211	+209
Duroc Jersey....	10	1,512	+1,502	Duroc Jersey....	214	4,865	+4,651
Not specified....	113	504	+391	Not specified....	108	396	+288
All other.....	—	2	+2				
Total.....	2,877	10,454	+7,577	Total.....	4,594	14,782	+10,188
ALBERTA.				THREE PROVINCES.			
Horses—				Horses—			
Thoroughbred...	120	209	+89	Thoroughbred...	232	386	+154
Standard Bred...	428	415	-13	Standard bred...	959	1,172	+213
Hackney.....	153	287	+134	Hackney.....	259	478	+219
French Canadian	5	3	-2	French Canadian	27	20	-7
Clydesdale.....	2,058	3,425	+1,367	Clydesdale.....	7,921	14,772	+6,851
Shire.....	122	376	+254	Shire.....	308	643	+335
Suffolk Punch...	61	120	+59	Suffolk Punch...	187	187	—
Percheron.....	1,215	2,042	+827	Percheron.....	2,094	4,097	+2,003
Belgian.....	94	219	+125	Belgian.....	166	581	+415
Not specified....	264	331	+67	Not specified....	718	2,494	+1,776
All other.....	93	195	+102	All other.....	208	383	+175
Total.....	4,613	7,622	+3,009	Total.....	13,079	25,213	+12,134
Cattle—				Cattle—			
Shorthorns.....	4,813	9,298	+4,485	Shorthorns.....	15,764	26,235	+10,471
Hereford.....	2,461	4,204	+1,743	Hereford.....	4,085	7,695	+3,610
Red Polled.....	105	282	+177	Red Polled.....	249	667	+418
Aberdeen Angus.	678	1,523	+845	Aberdeen Angus.	1,558	3,442	+1,884
Galloway.....	97	91	-6	Galloway.....	301	328	+27
Ayrshire.....	438	1,027	+589	Ayrshire.....	905	2,016	+1,111
Holstein.....	647	2,535	+1,888	Holsteins.....	1,254	5,612	+4,358
Jersey.....	325	629	+304	Jersey.....	865	1,418	+553
Guernsey.....	6	5	-1	Guernsey.....	20	36	+16
Not specified....	150	634	+484	Not specified....	847	1,652	+805
All other.....	21	6	-15	All other.....	27	14	-13
Total.....	9,741	20,234	+10,493	Total.....	25,875	49,115	+23,240

I. Number of Pure-bred Horses, Cattle, Sheep and Swine in the Prairie Provinces, 1911 and 1916—con.

Province and Breed.	1911	1916	Increase (+) or decrease (-).	Province and Breed.	1911	1916	Increase (+) or decrease (-).
No.	No.	No.		No.	No.	No.	
Sheep—				Swine—			
Cotswold.....	148	296	+148	Yorkshire.....	6,140	6,406	+266
Leicester.....	504	1,134	+630	Berkshire.....	4,684	13,152	+8,468
Lincoln.....	31	65	+34	Chester White...	127	652	+525
Oxford Down....	541	2,694	+2,153	Tamworth.....	568	1,183	+615
Shropshire.....	1,344	4,789	+3,445	Poland China....	453	2,135	+1,682
Southdown.....	66	166	+100	Hampshire.....	24	268	+244
Suffolk.....	173	749	+576	Duroc Jersey....	257	7,068	+6,811
Hampshire.....	163	211	+48	Not specified...	753	1,154	+401
Dorset.....	10	105	+95	All other.....	2	25	+23
Not specified...	194	319	+125				
All other.....	106	868	+762				
Total.....	3,280	11,396	+8,116	Total.....	13,008	32,043	+19,035

II. Numbers of Pure-bred Poultry in the Prairie Provinces, 1916.

Poultry.	Manitoba.	Saskatchewan.	Alberta.	Three Provinces.
Hens—				
Leghorns.....	16,542	14,688	17,457	48,687
Orpingtons.....	9,933	15,178	17,967	43,078
Plymouth Rocks..	27,357	39,041	36,730	103,128
Rhode Island Red..	8,805	14,664	17,329	40,798
Wyandottes.....	10,149	16,721	18,940	45,810
Others.....	6,579	5,543	6,861	18,983
Totals.....	79,365	105,835	115,284	300,484
Ducks—				
Pekin.....	487	492	894	1,873
Runners.....	35	72	139	246
Others.....	70	57	86	213
Totals.....	592	621	1,119	2,332
Geese—				
Embsen.....	31	28	127	186
Toulouse.....	263	432	403	1,098
Others.....	87	39	96	222
Totals.....	381	499	626	1,506
Turkeys—				
Bronze.....	405	562	553	1,520
Others.....	87	112	109	308
Totals.....	492	674	662	1,828

For each description is shown a notable increase during the five years, horses having increased by 12,134, cattle by 23,240, sheep by

8,116 and swine by 19,035. Amongst horses the principal breeds in point of numbers in 1916 are for light breeds the Thoroughbred 386, Hackney 478 and Standard Bred 1,172 and for heavy draught breeds the Clydesdale 14,772, Shire 643, Percheron 40,970, Belgian 581 and Suffolk Punch 187.

Amongst the cattle Shorthorns largely predominate, numbering in 1916, for the three provinces, 26,235, or 53 p.c. of the total. Herefords come next with 7,695, then Holsteins 5,612, Aberdeen Angus 3,442, Ayrshire 2,016 and Jersey 1,418.

Sheep are headed by Shropshire 4,789, with Oxford Down 2,694, Leicester 1,134, Suffolk 749, Cotswold 296, Hampshire 211, South-down 166 and Dorset 105.

Swine consist most largely of Berkshire 13,152, Duroc Jersey 7,068, Yorkshire 6,406, Poland China 2,135, Tamworth 1,183, Chester White 652 and Hampshire 268.

The numbers of pure-bred poultry were compiled for the first time in 1916, and there are therefore no previous figures for purposes of comparison. The table shows that in the three provinces in 1916 there were 300,484 pure-bred hens, 2,332 ducks, 1,506 geese and 1,828 turkeys. Of the hens the principal breeds are Leghorns, Orpingtons, Plymouth Rocks, Rhode Island Reds and Wyandottes. Ducks consist principally of the Pekin and Runner breeds, geese are chiefly Embden and Toulouse and turkeys are nearly all bronze.

FRUIT PRODUCTION IN THE PRAIRIE PROVINCES, 1916.

The following table shows the production and value of fruit in the three Prairie Provinces for the year 1915 according to the Report on the Census of 1916. For the three provinces, the number of apple

Fruit Production of the Prairie Provinces, 1915.

Fruits.	Manitoba.	Saskatchewan.	Alberta.	Total.
Strawberries.....qts.	2,736	1,635	15,971	20,342
\$	477	203	1,309	1,989
Raspberries.....qts.	27,693	2,204	10,038	39,935
\$	4,905	224	1,127	6,256
Currants.....qts.	17,795	1,724	11,836	31,355
\$	3,108	345	2,257	5,710
Gooseberries.....qts.	4,763	1,480	5,366	11,609
\$	567	153	573	1,293
Other small fruits.....qts.	499	—	—	499
\$	180	—	—	180
Apples.....bush.	962	18	909	1,889
\$	1,733	18	1,173	2,924
Other orchard fruits.....bush.	1,101	30	262	1,393
\$	820	30	270	1,120
Apple trees bearing.....No.	1,918	17	639	2,574
Apple trees non-bearing.....No.	9,942	6	670	10,618
Other orchard trees bearing.....No.	6,874	22	224	7,120
Other orchard trees non-bearing.....No.	2,257	23	993	3,273
Orchard.....acres	600	2	72	674
Garden.....acres	13,479	1,858	17,427	32,764

trees in bearing was 2,574, and of apple trees not in bearing 10,618. Other orchard trees in bearing numbered 7,120 and not in bearing 3,273. The orchard acreage was 674, and that of gardens 32,764. Of strawberries the production was 20,342 quarts, of raspberries 39,935 quarts, of currants 31,355 quarts, of gooseberries 11,609 quarts, of other small fruits 499 quarts, of apples 1,889 bushels and of other orchard fruits 1,393 bushels.

The above table is in correction of the preliminary figures which appeared in the Monthly Bulletin of October, 1917.

THE WEATHER DURING JULY.

The Dominion Meteorological Office reports that in no part of the Dominion did the mean temperature of the month differ very greatly from the normal, but in all the provinces, exclusive of the Maritime Provinces, some portions of the month were much above average and other portions much below—the negative departures nearly balancing the positive departures. The largest negative departure, about 4°, occurred in southeastern Saskatchewan, and the largest positive, about 2°, in the districts of Nipissing and Algoma of Ontario. In the West the period of greatest warmth occurred about the 20th, and an usually cold spell from the 23rd to the 28th. In Ontario and Quebec the weather was quite cool until the 12th, after which the general average temperature was decidedly high. In Quebec and the Maritime Provinces and in Ontario north of the Canadian Pacific Railway transcontinental line, the rainfall of July was in excess of the normal, while in all other parts of Canada it was in defect. The most pronounced deficiency was in southern Alberta and southwestern Saskatchewan, where the total was very generally less than 1.5 inch, and in the central counties of the peninsula of Ontario, where it was less than one inch. The heaviest fall was in northern New Brunswick, where at many points it was nearly ten inches.

Record Yield of Wheat.—According to the United States Monthly Crop Report of July, 1918, the largest yield per acre of wheat ever recorded is, so far as ascertained by the Bureau of Crop Estimates, 117.2 bushels. It was produced in 1895 in Island County, Washington, on a field of 18 acres. The farm on which this crop was grown consisted of a clearing of 85 acres of black sandy loam with a clay subsoil. It has been farmed for over 30 years, is not irrigated, but is well diversified. No fertilizer has ever been used on this farm. The variety of wheat sown was Australian Club. The field that produced the record yield was in pasture for cattle and sheep for several years, and for three years prior to producing the yield of wheat was seeded to potatoes.

PRICES OF AGRICULTURAL PRODUCE, 1918.

I. Weekly Range of Prices per bushel of Canadian Grain at Winnipeg and Fort William, 1918.

(Furnished by the Board of Grain Commissioners for Canada, Fort William, Ont.).

Grain and Grade.	July 6.		July 13.		July 20.		July 27.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—								
No. 1 Nor.....	2 21	—	2 21	—	2 21	—	2 21	—
No. 2 Nor.....	2 18	—	2 18	—	2 18	—	2 18	—
No. 3 Nor.....	2 15	—	2 15	—	2 15	—	2 15	—
No. 4.....	2 08	—	2 08	—	2 08	—	2 08	—
No. 5.....	1 96	—	1 96	—	1 96	—	1 96	—
No. 6.....	1 87	—	1 87	—	1 87	—	1 87	—
Feed.....	—	—	1 79	—1 80	1 80	—1 87	1 85	—
Oats—								
No. 2 C.W.....	0 85½—0 88½		0 88½—0 90½		0 90½—0 92½		0 89½—0 90½	
No. 3 C.W.....	0 82½—0 85½		0 85½—0 87½		0 87½—0 89		0 86—0 87½	
No. 1 Feed Ex.....	0 82½—0 85½		0 85½—0 87		0 87½—0 89		0 86—0 87½	
No. 1 Feed.....	0 79½—0 82½		0 82½—0 84		0 84½—0 86		0 83—0 84½	
No. 2 Feed.....	0 76½—0 79½		0 79½—0 81½		0 81½—0 83		0 80—0 81½	
Barley—								
No. 3 C.W.....	1 20	—	1 20	—1 26	1 30	—1 35	—	—
No. 4 C.W.....	1 15	—	1 15	—1 21	1 25	—1 30	—	—
Rejected.....	1 09	—1 10	1 10	—1 14	1 20	—1 25	1 26	—
Feed.....	1 07½	—1 09	1 09	—1 13	1 19	—1 25	1 26	—
Flax—								
No. 1 N.W.C.....	3 84	—4 00	3 99	—4 46	4 30½—4 45½		4 37½—4 57	
No. 2 C.W.....	3 81	—3 97	3 96	—4 43	4 27	—4 42	4 33½—4 54	
No. 3 C.W.....	3 56	—3 72	3 71	—4 18	—	—	—	—

II. Monthly Range of Prices per bushel of Grain at Selected Markets in the United States, 1918.

(From the Monthly Report of the U.S. Department of Agriculture.)

Grade and Market.	April.		May.		June.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat, Red Winter, No. 2—						
St. Louis.....	2 15	—	2 15	—	2 15	—
Chicago.....	2 17	—	2 17	—	2 17	—
New York (f.o.b. afloat).....	2 26	—	2 26	—	2 26	—
Corn, No. 2, mixed—						
St. Louis.....	1 68	—1 70	1 52	—1 53½	1 48	—1 64
Corn No. 2—						
Chicago.....	1 60	—1 65	1 55	—1 60	1 50	—1 65
Oats, No. 2—						
St. Louis.....	0 77½	—	0 70	—0 82½	0 70	—0 78
Chicago.....	0 78½	—	0 72	—0 79½	0 71	—0 80½
Rye, No. 2—						
Chicago.....	2 60	—	1 30	—2 60	1 60	—2 50

III. Range of Prices of Imported Grain and Flour at British Markets, 1918.

Mark Lane.	June 3-24.	July 1-29.	Liverpool.	June 3-July 30.
Wheat—	\$ c.	\$ c.	Wheat—	\$ c.
Canadian No. 1.....	2 42½	2 42½	Nor. Man. No. 1.....	2 38½
“ No. 2.....	2 40½	2 37½	Man. No. 1.....	2 20½
“ No. 3.....	2 31½	2 31½	Hard Winter No. 2.....	2 34
“ No. 4.....	—	2 23½	Red Winter No. 3.....	2 26½
“ No. 5.....	—	2 19	Australian.....	2 49½
“ No. 6.....	—	2 06½	Flour—	\$ c. \$ c.
Oats—	\$ c. \$ c.	\$ c. \$ c.	Manitoba.....	12 41—12 59
Canadian.....	1 65½—1 68	1 65½—1 68	Kansas.....	12 41—12 59
American.....	1 57½—1 60½	1 57½—1 60½		
Flour (per 280 lb.)—				
Canadian Spring.....	12 21—12 59	12 21—12 59		
American Spring.....	12 21—12 59	12 21—12 59		
American Winter.....	12 21—12 59	12 21—12 59		
Japanese.....	—	12 15—12 27		

MARK LANE.

Wheat.	June 3.		June 10.		June 17.		June 24.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
American Spring.....	2 35½	— 2 38½	2 35½	— 2 38½	2 35½	— 2 38½	2 35½	— 2 38½
American Hard Winter.....	2 35½	— 2 38½	2 35½	— 2 38½	2 35½	— 2 38½	2 35½	— 2 38½
American Red Winter.....	2 29½	— 2 35½	2 29½	— 2 35½	2 29½	— 2 35½	2 29½	— 2 35½

Wheat.	July 1.		July 8.		July 15.		July 22.		July 29.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
American Spring.....	2 35½	— 2 38½	2 35½	— 2 38½	2 35½	— 2 38½	2 35½	— 2 38½	2 38½	— 2 41½
“ hard winter.....	2 35½	— 2 38½	2 35½	— 2 38½	2 35½	— 2 38½	2 35½	— 2 38½	2 35½	— 2 38½
“ red winter.....	2 29½	— 2 35½	2 29½	— 2 35½	2 29½	— 2 35½	2 29½	— 2 35½	2 32½	— 2 35½
Australian.....	2 50½	— 2 52½	2 52½	— 2 53½	2 52½	— 2 53½	2 51—	— 2 52½	2 51—	— 2 52½
Indian.....	2 56—	— 2 59	2 56—	— 2 59	2 56—	— 2 59	2 56—	— 2 59	2 56—	— 2 59
Californian.....	2 41½	— 2 44½	2 41½	— 2 44½	2 41½	— 2 44½	2 41½	— 2 44½	2 39½	— 2 45½
Argentina.....	2 41½	— 2 44½	2 43½	— 2 44½	2 43½	— 2 44½	2 43½	— 2 44½	2 43½	— 2 44½

IV. Prices of Canadian Cheese and Bacon at British Markets, 1917 and 1918.

(From the Journal of the English Board of Agriculture and Fisheries.)

CHEESE.

Date.	Bristol.		Liverpool.		London.	
	1st quality.	2nd quality.	1st quality.	2nd quality.	1st quality.	2nd quality.
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
1917—						
January.....	30 42	29 66	30 20	29 66	30 52	29 66
February.....	34 44	33 67	33 89	33 24	35 20	34 44
March.....	35 85	—	35 96	—	35 96	—
April.....	35 20	34 76	35 41	34 76	35 41	—
May.....	35 20	34 76	35 41	—	35 20	—
June.....	35 20	34 76	—	—	35 20	34 76
July, 1917–July, 1918....	28 35	—	28 35	—	28 35	—

BACON (GREEN SIDES.)

1917—						
January.....	24 77	24 33	24 77	23 79	24 88	23 57
February.....	27 92	27 37	27 81	27 27	26 94	26 94
March.....	29 44	—	29 66	29 33	—	28 57
April.....	29 66	—	29 55	—	29 66	29 22
May.....	30 31	29 87	30 31	29 87	29 76	29 33
June.....	27 92	27 48	27 37	26 61	27 48	26 18
July.....	27 92	27 37	29 00	27 59	29 00	28 35
August.....	—	—	32 59	31 50	32 91	32 59
September.....	—	—	34 11	—	34 33	—
October.....	—	—	35 20	—	35 20	—
November.....	—	—	—	—	36 72	—
December.....	—	—	—	—	38 89	—
1918—						
January.....	—	—	—	—	38 73	38 46
February–April.....	—	—	38 46	—	38 73	38 46
May.....	38 56	—	38 46	—	38 73	38 13
June.....	38 56	—	38 46	—	38 73	38 00

NOTE.—By the Cheese (Requisition) Order 1917, dated May 29, 1917, the British Food Controller took over from the original consignees all cheese imported into the United Kingdom from the United States, Canada, Australia and New Zealand.

V. Average Prices of British-grown Grain, 1918.

(From the "London Gazette," as published pursuant to s. 8 of the Corn Returns Act, 1882.)

Week ended.	Wheat.		Barley.		Oats.	
	per quarter.	per bushel.	per quarter.	per bushel.	per quarter.	per bushel.
	s. d.	\$ c.	s. d.	\$ c.	s. d.	\$ c.
June 1.....	73 8	2.241	60 0	1.752	44 9	1.176
" 8.....	73 11	2.248	59 2	1.925	45 5	1.194
" 15.....	74 3	2.258	57 9	1.686	45 7	1.198
" 22.....	74 4	2.261	58 5	1.706	47 8	1.253
" 29.....	74 4	2.261	57 10	1.688	46 4	1.227
Average.....	74 1	2.254	58 7	1.751	45 11	1.210
July 6.....	74 4	2.261	61 7	1.798	46 10	1.241
" 13.....	74 4	2.261	57 5	1.676	47 0	1.268
" 20.....	74 3	2.258	60 5	1.764	45 4	1.201
" 27.....	74 3	2.258	56 11	1.661	46 2	1.223
Average.....	74 4	2.260	59 1	1.777	46 4	1.223

SCHEME OF CROP-REPORTING FOR 1918.

July.—Preliminary estimate of the yield per acre of fall wheat, hay and clover and alfalfa. Condition of spring wheat, oats, barley, rye, peas, beans, buckwheat, mixed grains, flaxseed, corn for husking, potatoes, turnips, mangolds, carrots, etc., hay and clover, alfalfa, corn for fodder, sugar beets and pasture. Dates of heading, flowering, milk-stage and cutting of wheat.

August.—Estimate of the yield per acre of spring wheat, rye, oats, barley and flax. Estimate of areas sown to these cereals that from any cause will not produce a crop. Condition of spring wheat, oats, barley, rye, beans, buckwheat, mixed grains, flaxseed, corn for husking, potatoes, turnips, mangolds, carrots, etc., hay and clover, alfalfa, corn for fodder, sugar beets and pasture. Dates of heading, flowering, milk stage and cutting of wheat. Stocks of wheat, oats, and barley in hand on August 31.

September.—Estimate of the yield per acre of fall wheat, spring wheat, oats, barley, rye, peas, beans, buckwheat, mixed grains, flaxseed and corn for husking. Quality of these crops when harvested. Condition of potatoes, turnips, mangolds, carrots, etc., sugar beets, corn for fodder and alfalfa. Date of cutting of wheat.

October.—Yield per acre, quality and average price of potatoes, sugar beets, turnips, corn for husking, other roots (mangolds, carrots, etc.), hay and clover, fodder corn and alfalfa. Acreage sown to fall wheat. Condition of fall wheat. Percentage of fall ploughing completed. Acreage summer fallowed in percentage of previous year.

December.—Final estimates of yields per acre based upon reports of threshing results. Average market prices and weight per measured bushel of cereals.

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OF THE
Department of Trade and Commerce

REPORT OF THE DEPUTY MINISTER.

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The Timber Import Trade of Australia.

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CANADA, THE COUNTRY OF THE TWENTIETH CENTURY.

GRAIN INSPECTION IN CANADA.

LIST OF LICENSED ELEVATORS.

RULES AND REGULATIONS OF THE BOARD OF GRAIN
COMMISSIONERS.

REPORT OF THE BOARD OF GRAIN COMMISSIONERS.

MAIL SUBSIDIES AND STEAMSHIP SUBVENTIONS.

For List of Publications of the Dominion Bureau of Statistics, see page iv of cover.

PUBLICATIONS

OF THE

DOMINION BUREAU OF STATISTICS.

ANNUAL REPORT OF THE TRADE OF CANADA.

MONTHLY REPORT OF THE TRADE OF CANADA.

THE CANADA YEAR BOOK, 1916-17, with Map of Canada and Newfoundland, a Statistical Summary of the Progress of Canada and numerous illustrations pp. 1-xvi, 1-720.

Contents: I Natural Resources of the Dominion of Canada, by WATSON GRIFFIN, Department of Trade and Commerce, Ottawa, with 10 illustrations; II Physical Characteristics of Canada, including Geographical Features; Economic Geology in Canada, 1917, by WYATT MALCOLM, Department of Mines, Ottawa; III Area and Population; IV Education; V Climate and Meteorology, with Diagram; VI Production; VII Trade and Commerce; VIII Transportation and Communications; IX Labour; X Finance; XI Administration; XII Legislation and Principal Events of the Years 1916 and 1917; XIII Extracts from the Canada Gazette 1916 and 1917.

THE CANADA YEAR BOOK. Second Series 1905-1915. [1910 and 1913, out of print.]

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. Nos. I to XIX.

REPORT OF THE FIFTH CENSUS OF CANADA, 1911.

Vol. I, 1912. Areas and Population by Provinces, Districts and Subdistricts with Introduction. Tables I to XV, pp. i-viii, 1-623. [Out of print.]

Vol. II, 1913. Religions, Origins, Birthplace, Citizenship, Literacy and Infirmities by Provinces, Districts and Subdistricts, with Introduction. Tables I-XLVI, pp. i-iv, 1-634.

Vol. III, 1913. Manufactures for 1910 as enumerated in June 1911, with Introduction. Tables I-XX, pp. i-xvi, 1-432.

Vol. IV, 1914. Agriculture with Introduction. Tables 1-90; I-XXXV, pp. i-xcv, 1-428. Diagrams, 5 pp. [Out of print.]

Vol. V, 1915. Forest, Fishery, Fur and Mineral Production, with Introduction. Tables 1-51; I-XXVI, pp. i-l, 1-171.

Vol. VI, 1916. Occupations of the People, with Introduction. Tables 1-25; I-VI, i-xxxi, 1-469. [Out of print.]

REPORT OF THE CENSUS OF POPULATION AND AGRICULTURE OF THE PRAIRIE PROVINCES, 1916. January 12, 1918. Tables 1-54; I-XXVI, pp. i-lxiv, 1-356.

SPECIAL REPORT ON THE FOREIGN-BORN POPULATION. Abstracted from the Records of the Fifth Census of Canada. June, 1911. 23 tables. 62 pp. 1915.

REPORT OF THE POSTAL CENSUS OF MANUFACTURES, 1916. pp. i-xi; 1-263, 1917.

REPORT ON THE PRODUCTION OF CREAMERIES AND CHEESE FACTORIES, 1915 and 1916. pp. 1-24, 1917.

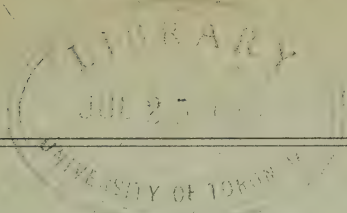
CRIMINAL STATISTICS. Annual Report for Year ended September 30, 1915. pp. i-xliv, 1-398.

CENSUS AND STATISTICS MONTHLY, Vols. 1-9, 1908-1916; Vol. 10, Nos. 101-103, 1917. MONTHLY BULLETIN OF AGRICULTURAL STATISTICS, Vols. 10 and 11, Nos. 104-120, 1917-18.

For List of Publications of the Department of Trade and Commerce, see page iii of cover.

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OF

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1918

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DOMINION BUREAU OF STATISTICS, OTTAWA, CANADA.

FIELD CROPS OF CANADA.

Report for the month ended August 31, 1918.

The Dominion Bureau of Statistics reports to-day its preliminary estimate of the average yields per acre of the principal grain crops in Canada, the condition of field crops, the areas unproductive and the stocks of wheat, barley and oats in farmers' hands, as compiled from the reports of Crop Correspondents on August 31. The preliminary estimate of the total yields of grain, usually issued at this date, is deferred pending completion of the compilation of the returns of areas sown, as collected jointly throughout Canada by the Dominion and Provincial Governments.

AVERAGE YIELDS PER ACRE OF PRINCIPAL GRAIN CROPS.

For the whole of Canada in 1918 the average yield per acre is estimated at $16\frac{1}{2}$ bushels for fall wheat, as compared with $21\frac{1}{2}$ bushels last year and 23 bushels the ten year average for 1908-17. For spring wheat the average is $12\frac{1}{2}$ bushels as compared with $15\frac{1}{2}$ bushels last year and 19 bushels, the decennial average. For other grain crops the respective averages are in bushels per acre as follows: Oats 33 as against $30\frac{1}{4}$ and $35\frac{1}{4}$; barley $25\frac{1}{2}$ as against 23 and 27; rye $14\frac{1}{2}$ as against $16\frac{1}{4}$ and $18\frac{1}{4}$; flax 8 as against $6\frac{1}{2}$ and $10\frac{1}{2}$. For the Prairie Provinces the estimated average yields per acre for 1918 are as follows, the yields for 1917 and for the ten year period 1908-17 being placed within brackets: Manitoba: Wheat 17 ($16\frac{3}{4}$, $17\frac{3}{4}$); oats $38\frac{3}{4}$ ($30\frac{1}{4}$, $35\frac{1}{2}$); barley $29\frac{1}{4}$ ($22\frac{1}{2}$, $25\frac{3}{4}$); rye $18\frac{1}{2}$ ($17\frac{1}{4}$, 18); flax $11\frac{3}{4}$ (9, $11\frac{1}{2}$). Saskatchewan: Wheat $11\frac{1}{2}$ ($14\frac{1}{4}$, $18\frac{1}{2}$); oats $31\frac{1}{2}$ ($27\frac{1}{4}$, $38\frac{1}{4}$); barley $22\frac{1}{2}$ (21, $26\frac{3}{4}$); rye 15 ($18\frac{3}{4}$, $20\frac{3}{4}$); flax $8\frac{1}{2}$ ($6\frac{1}{4}$, $10\frac{1}{2}$); Alberta: Wheat 10 ($18\frac{1}{4}$, $22\frac{1}{2}$); oats $23\frac{1}{4}$ (34, 42); barley $16\frac{3}{4}$ (22, $28\frac{1}{4}$); rye $15\frac{3}{4}$ ($20\frac{1}{2}$, $23\frac{1}{2}$); flax $5\frac{1}{4}$ (7, $10\frac{1}{2}$).

CONDITION OF OTHER FIELD CROPS.

The condition of other field crops in Canada on August 31, measured against 100 as representing the average decennial yield is as follows: Mixed grains 100, peas and beans 106, buckwheat 91, corn for husking 87, potatoes, turnips, mangolds, etc. 95, corn for fodder 96, sugar beets 94, pastures 87.

AREAS UNPRODUCTIVE.

In consequence of drought and the severe frosts of July, the areas in the three Prairie Provinces and in British Columbia that will fail to produce grain crops are exceptionally large. Crop Correspondents

were requested to estimate at the end of August the percentage of areas sown that would (a) prove a total loss and (b) that would be cut green. The returns show that for all four provinces 13 p.c. of the area sown to wheat will be a total loss, whilst 13 p.c. will be cut green, the area not producing grain being therefore 26 p.c. For oats the percentages are 8 total loss, 15 p.c. cut green, 23 p.c. not producing grain; for barley 6 p.c. total loss, 7 p.c. cut green, 13 p.c. no grain; for rye 10 p.c. total loss, 7 p.c. cut green, 17 p.c. no grain; for flax 14 p.c. total loss.

STOCKS OF WHEAT, BARLEY AND OATS IN CANADA.

Inquiries made by the Bureau show that about 4 million bushels of wheat, 1,453,500 bushels of barley and about 15 million bushels of oats remained in stock in Canada at the end of the Canadian crop year on August 31. For wheat the quantity estimated as in farmers' hands is about 400,000 bushels, of barley 354,000 bushels and of oats 8½ million bushels, the balance in each case being in the terminal, public and country elevators. The quantities do not include grain in transit nor grain in flour mills or retail hands.

Dominion Bureau of Statistics,
Ottawa, Sept. 18, 1918.

ERNEST H. GODFREY,
Editor.

I. Preliminary Estimate of the Yield per Acre of Cereal Crops in Canada, 1918, as compared with 1917 and the decennial average, 1908-17.

Field crops.	Decen- nial ave- rage 1908- 1917.	1917.	1918.	Per cent of 1917.	Per cent of ave- rage 1908- 1917.	Field Crops.	Decen- nial ave- rage 1908- 1917.	1917.	1918.	Per cent of 1917.	Per cent of ave- rage 1908- 1917.
	bush. per acre.	bush. per acre.	bush. per acre.	p.c.	p.c.		bush. per acre.	bush. per acre.	bush. per acre.	p.c.	p.c.
Canada—						Ontario—					
Fall wheat.....	23-00	21-50	16-50	76	72	Fall wheat.....	23-09	21-59	17-30	80	75
Spring wheat...	19-00	15-50	12-50	82	66	Spring wheat...	18-25	19-59	23-60	121	129
All wheat.....	19-25	15-75	12-50	79	65	All wheat.....	22-50	21-25	19-35	91	86
Oats.....	35-25	30-25	33-00	109	94	Oats.....	34-00	36-50	42-60	117	125
Barley.....	27-00	23-00	25-50	111	94	Barley.....	29-00	31-09	35-50	115	122
Rye.....	18-25	18-25	16-25	89	89	Rye.....	17-59	17-75	16-20	91	93
Flax.....	10-50	6-50	8-00	123	76	Flax.....	14-50	13-00	11-75	90	90
P. E. Island—						Manitoba—					
Wheat.....	18-50	14-50	21-50	148	116	Fall wheat.....	21-25	22-25	17-75	80	84
Oats.....	32-25	32-25	40-00	124	124	Spring wheat...	17-75	16-75	17-00	101	96
Barley.....	28-25	28-50	31-00	109	110	All wheat.....	17-75	16-75	17-00	101	96
Nova Scotia—						Oats.....	35-50	30-25	38-75	128	109
Wheat.....	19-25	15-75	22-75	144	118	Barley.....	25-75	22-50	29-25	130	114
Oats.....	31-25	29-25	39-00	133	125	Rye.....	18-09	17-25	18-25	106	101
Barley.....	26-75	24-75	30-00	121	112	Flax.....	11-59	9-00	11-75	131	102
Rye.....	17-75	15-00	16-75	112	94	Saskatchewan—					
New Brunswick—						Wheat.....	18-50	14-25	11-50	81	62
Wheat.....	17-75	12-00	20-50	171	115	Oats.....	38-25	27-25	31-50	116	82
Oats.....	28-25	22-50	32-75	146	119	Barley.....	26-75	21-00	22-50	107	84
Barley.....	25-75	22-00	26-00	118	101	Rye.....	20-75	18-75	15-00	80	72
Quebec—						Flax.....	10-50	6-25	8-50	136	81
Wheat.....	15-75	14-00	19-25	138	122	Alberta—					
Oats.....	26-25	21-75	30-00	138	114	Fall wheat.....	22-00	20-50	12-25	60	56
Barley.....	22-75	18-50	24-50	132	108	Spring wheat...	22-50	18-25	10-00	55	44
Rye.....	16-00	16-75	17-00	101	106	All wheat.....	22-50	18-25	10-00	55	44
Flax.....	9-50	8-25	12-25	148	129	Oats.....	42-00	34-09	23-25	68	55

I. Preliminary Estimate of the Yield per Acre of Cereal Crops in Canada, 1918 as compared with 1917 and the decennial average 1908-17—con.

Field Crops.	Decen- nial ave- rage 1908- 1917.	1917.	1918.	Per cent of 1917.	Per cent of ave- rage 1908- 1917.	Field Crops.	Decen- nial ave- rage 1908- 1917.	1917.	1918.	Per cent of 1917.	Per cent of ave- rage 1908- 1917.
	bush. per acre.	bush. per acre.	bush. per acre.	p.c.	p.c.		bush. per acre.	bush. per acre.	bush. per acre.	p.c.	p.c.
Alberta—con.						British Columbia					
Barley.....	28.25	22.00	16.75	76	59	Fall wheat....	31.00 ¹	31.75	27.00	85	87
Rye.....	23.50	20.50	15.75	77	67	Spring wheat...	28.75 ¹	28.50	22.75	80	79
Flax.....	10.50	7.00	5.25	75	50	All wheat....	29.50 ¹	29.00	23.25	80	79
						Oats.....	56.50 ¹	53.75	40.75	76	72
						Barley.....	37.25 ¹	29.25	29.75	102	80

¹ Average of eight years, 1910-1917.

II. Condition of Late sown Field and Fodder Crops on August 31, 1918, as compared with July 31, 1918, and August 31, 1917.

NOTE.—100 represents the promise of a yield per acre equal to the average annual yield per acre of the ten years 1908-17.

Field crops.	Aug. 31, 1917	July 31, 1918	Aug. 31, 1918	Field crops.	Aug. 31, 1917	July 31, 1918	Aug. 31, 1918
	p.c.	p.c.	p.c.		p.c.	p.c.	p.c.
Canada—				New Brunswick—			
Peas.....	101	101	106	Peas.....	102	100	95
Beans.....	100	95	106	Beans.....	104	91	88
Buckwheat.....	105	93	91	Buckwheat.....	113	99	88
Mixed grains.....	102	101	100	Mixed grains.....	93	99	100
Potatoes.....	94	95	95	Potatoes.....	81	96	96
Turnips.....	101	96	95	Turnips.....	102	97	96
Mangolds, carrots, etc.	100			Mangolds, carrots, etc.	107		
Corn for fodder.....	96	85	96	Corn for fodder.....	95	86	89
Sugar beets.....	109	92	94	Pasture.....	111	102	96
Pasture.....	107	92	87				
P. E. Island—				Quebec—			
Peas.....	102	92	97	Rye.....	104	101	101
Buckwheat.....	103	94	98	Peas.....	97	104	100
Mixed grains.....	95	102	106	Beans.....	96	94	93
Potatoes.....	107	93	94	Buckwheat.....	101	98	92
Turnips.....	109	95	98	Mixed grains.....	95	107	104
Mangolds, carrots, etc.	105			Flax.....	59	100	99
Corn for fodder.....	103	91	89	Corn for husking.....	95	101	94
Pasture.....	107	99	98	Potatoes.....	93	104	104
				Turnips.....	104	101	99
Nova Scotia—				Mangolds, carrots, etc.	102		
Peas.....	97	100	97	Corn for fodder.....	102	92	93
Beans.....	102	84	86	Pasture.....	27	98	98
Buckwheat.....	100	94	93				
Mixed grains.....	96	100	105	Ontario—			
Potatoes.....	100	101	102	Peas.....	113	100	104
Turnips.....	103	98	97	Beans.....	104	96	96
Mangolds, carrots, etc.	102			Buckwheat.....	110	85	93
Corn for fodder.....	103	93	97	Mixed grains.....	115	102	106
Pasture.....	108	94	91	Flax.....	110	97	94
				Corn for husking.....	83	77	83

II. Condition of Late sown Field and Fodder Crops on August 31, 1918 as compared with July 31, 1918 and August 31, 1917—con.

Field crops.	Aug. 31, 1917	July 31, 1918	Aug. 31, 1918	Field crops.	Aug. 31, 1917	July 31, 1918	Aug. 31, 1918
	p.c.	p.c.	p.c.		p.c.	p.c.	p.c.
Ontario—con.				Manitoba—con.			
Potatoes.....	110	96	90	Corn for fodder.....	89	87	92
Turnips.....	116	95	94	Pasture.....	76	83	90
Mangolds, carrots, etc.	110	84	93	Alberta—			
Corn for fodder.....	92	84	93	Peas.....	104	81	58
Pasture.....	116	92	89	Mixed grains.....	83	99	80
Saskatchewan—				Flax.....	68	59	59
Peas.....	93	84	80	Potatoes.....	83	71	68
Beans.....	92	89	80	Turnips.....	58	82	84
Mixed grains.....	67	89	90	Mangolds, carrots, etc.	52	90	52
Flax.....	70	73	80	Corn for fodder.....	90	52	61
Potatoes.....	83	80	84	Pasture.....	88	70	71
Turnips.....	82	80	84	British Columbia—			
Mangolds, carrots, etc.	84	80	84	Peas.....	95	90	87
Corn for fodder.....	86	70	100	Mixed grains.....	100	95	98
Pasture.....	79	91	80	Potatoes.....	92	84	92
Manitoba—				Turnips.....	99	90	90
Mixed grains.....	92	99	98	Mangolds, carrots, etc.	98	83	85
Flax.....	84	92	92	Pasture.....	86	100	97
Potatoes.....	87	98	107	Corn for fodder.....	—		
Turnips.....	94	91	87				
Mangolds, carrots, etc.	96						

III. Estimate of Unproductive Areas in the Prairie Provinces and British Columbia, 1918.

(Based upon Provisional Estimate of Areas Sown.)

Provinces.	Area sown.	Total loss.	Cut green.	Area not producing grain.	Har- vested area.
	acres	p.c. acres	p.c. acres	p.c. acres	acres
Spring wheat—					
Manitoba.....	2,616,000	5 130,800	1 26,200	6 157,000	2,459,000
Saskatchewan.....	9,101,000	12 1,092,100	11 1,001,100	23 2,093,200	7,007,800
Alberta.....	3,187,000	23 733,000	28 892,400	51 1,625,400	1,561,600
British Columbia ¹ ...	20,400	9 1,836	25 5,100	34 6,936	13,464
Total.....	14,924,400	13 1,957,736	13 1,924,800	26 3,882,536	11,041,864
Oats—					
Manitoba.....	1,545,000	2 31,000	5 77,300	7 108,300	1,436,700
Saskatchewan.....	4,612,000	5 230,600	13 599,600	18 830,200	3,781,800
Alberta.....	2,639,000	17 448,600	25 659,800	42 1,108,400	1,530,600
British Columbia ¹ ...	72,000	15 10,800	37 26,640	52 37,440	34,560
Total.....	8,868,000	8 721,000	15 1,363,340	24 2,084,340	6,783,660

III. Estimate of Unproductive Areas in the Prairie Provinces and British Columbia, 1918—con.

Provinces.	Area sown.	Total loss.		Cut green.		Area not producing grain.		Harvested area.
	acres	p.c.	acres	p.c.	acres	p.c.	acres	acres
Barley—								
Manitoba.....	729,000	2	14,600	1	7,300	3	21,900	707,100
Saskatchewan.....	663,000	8	53,000	7	46,400	15	99,400	563,600
Alberta.....	463,000	11	51,000	16	74,100	27	125,100	337,900
British Columbia ¹ ...	5,600	27	1,512	—	—	27	1,512	4,088
Total.....	1,860,600	6	120,112	7	127,800	13	247,912	1,612,688
Rye—								
Manitoba.....	47,000	7	3,300	2	900	9	4,200	42,800
Saskatchewan.....	65,000	9	5,900	7	4,600	16	10,500	54,500
Alberta.....	30,600	16	4,900	14	4,300	30	9,200	21,400
Total.....	142,600	10	14,100	7	9,800	17	23,900	118,700
Flax—								
Manitoba.....	21,700	2	400	—	—	2	400	21,300
Saskatchewan.....	724,000	9	65,200	—	—	9	65,200	658,800
Alberta.....	172,000	34	58,500	—	—	34	58,500	113,500
Total.....	917,700	14	124,100	—	—	14	124,100	793,600

¹Estimate furnished by the British Columbia Department of Agriculture.

CROP REPORTS FROM THE PROVINCES.

Atlantic Provinces.—Crop Correspondents throughout the three provinces reported a late harvest due to the frosts and wet weather of May and June. Ideal weather during the last two weeks of August has improved all grains and root crops. Wheat is a better crop than for several years. Cutting would not be general until the middle of September. Oats were a splendid crop. Hay and clover were both an abundant crop. Straw was also plentiful. Buckwheat was damaged by frost, and the yield will be below average. In some sections frosts damaged potatoes, turnips, beans, peas and corn. Although potato bugs were prevalent and blight has been reported in several instances, potatoes on the whole will yield an average crop. Pastures were in need of rain. The scarcity of labour is being keenly felt throughout the Atlantic Provinces.

Quebec.—In August the weather was favourable for grain and root crops, and the harvest will be excellent. A great hail storm in the middle of the month devastated parts of the province, causing great damage to corn and beans, and almost totally destroying buckwheat. A large percentage of oats on low lands has been cut for green feed. Drought affected the growth of potatoes. Pastures are poor. Hay was light, but good, and was harvested in fine con-

dition. The crops, in general, are better than expected, notwithstanding high winds and continued wet and cold weather early in the season.

Ontario.—The weather has been fine for harvesting, and grains and hay were saved in good condition. Threshing has commenced and shows that spring grains, wheat, oats and barley in particular, are giving very satisfactory yields. Corn was backward with few ears showing, but rains at the end of the month have improved it considerably. Pastures were becoming dry and bare, while roots and potatoes suffered from the drought. The fruit crop was said to be short. The remarkable success which has attended the growing of spring wheat this year is like y to result in larger acreages under this crop next year. Little ploughing has been done for fall wheat, owing to the hard, dry condition of the soil. Soldiers on leave have helped greatly to meet the labour shortage.

Manitoba.—Grain is late ripening, and cutting is delayed owing to the cool weather and heavy rains of August, which, however, have improved late crops, especially the wind blown areas that were resown to oats and barley. Pastures are best in years. The quality of grain is good, but the straw is short—in some cases too short to be cut by binders. Frost has done damage in some districts and rust is reported, but on the whole prospects are good. All garden stuff and potatoes are excellent, and there is plenty of feed for live stock.

Saskatchewan.—The recent rains and favourable weather have benefited all crops, and pastures have greatly improved. Prospects are brighter than last month. The heavy frost of about July 24 caused great damage, especially on low ground. Fields that escaped frost will have a heavy yield of good sample. Hail in northern districts ruined a large acreage. Saw fly was also destructive. Dry weather during the early season retarded the growth of vegetables, and all garden produce will be below average. There will be plenty of feed owing to so much grain being cut green. Some correspondents report that seed is scarce. Harvesting is well advanced, and if no frost occurs during the next two weeks, late crops will yield a good harvest.

Alberta.—In some parts of southern Alberta the crops promise a fair yield although everywhere Correspondents state that it has been a very bad year, owing to drought and severe frosts. Gophers and grasshoppers have also been troublesome. Late rains effected some improvement. In many places oats will only be used for feed. In some districts winter feed for stock is being supplemented by Russian thistles. Conditions in northern Alberta are considerably better. Many districts were affected by the severe frost of July 22-24, which did great damage to grain and potatoes.

British Columbia.—The hay crop was light, owing to dry weather in the early summer. However, the rain during August improved pastures, and the second crop of hay is very good. Although the heavy rains retarded the ripening of grain somewhat, it improved other crops, especially roots.

CROP REPORTS OF THE PROVINCIAL GOVERNMENTS.

Ontario.—The report of August 26 stated that most of the grain fields had been harvested. Rains were very welcome to late potato, root and even to corn fields. Owing to the drought, live stock had felt the lack of good pasture, but otherwise were in good condition. Young cattle were selling at from 9 cents to 11 cents per lb., but more finished animals were bringing as high as 14 cents. Hogs remained at from \$19 to \$19.50 per cwt. Young pigs were in demand, weanlings fetching \$12 a pair.

On September 2 the report stated that for lack of barn space some grain had had to be temporarily stacked in the fields. Threshing in the open has also helped to conserve room for the crops. The results of threshing in most cases exceeded the estimates made regarding the standing crops. Mixed grains in Norfolk had given as high as 65 bushels to the acre. Corn promised to be a fair general crop after all, especially for the silo. With ordinary fall weather corn from the new southern seed used this year was likely to mature. Durham, however, reported that the crop there had a tendency to run to stalk rather than ear. Roots also were greatly checked during the hot, dry spell, but the soaking rains of the past week would help them along. Fall wheat land was being rapidly put into shape, and seeding had already started in some of the southwestern counties. The timely rains of the past week or two would put the ground in excellent condition for ploughing and seeding. Hogs were a little lower in value, prices running from \$18.50 to \$19 a cwt. Arrangements were being made for a fair supply of hogs being fed during the winter. Fodder supplies for the winter were already well assured. Coarse grains never yielded better. Hay was light in yield, but much of the straw was of excellent quality for fodder. Corn for the silo promised to be a fair yield.

September 9. The frequent heavy rains of the last week or ten days had more or less delayed field work, but the well soaked land, so long hardened by dry weather, had been put in fine condition for fall ploughing, while pastures and late crops had been given a new lease of life. Potatoes would not be up to the yield expected early in the season, but were on the whole clean and presentable. Roots, especially sugar beets and turnips, were reviving wonderfully, as the rain had gone well into the soil. Bean harvesting had begun, and promised a fair yield, although the recent heavy rains may affect the colour. Some corn had been knocked down by the recent wet and windy weather. This crop has had considerable late growth, the stalks were rather green and sappy, and some anxiety is being expressed as to whether there would be sufficient maturity by the time frost comes. Threshing was proceeding vigorously, and in many cases field estimates were being exceeded. In the township of Sombra in Lambton County several cases were reported of oats yielding 100 bushels an acre. On several 100-acre farms in the same township some were threshing from 2,300 to 2,500 bushels of grain.

September 16. Threshing was as active as could be, and actual results as a rule continued to be well up to or above earlier expectations. Owing to the frequent rains of the last two or three weeks some spring wheat and oats were still out in the stook in some of the more northern districts. One farmer in Norfolk, however, has already marketed 2,000 bushels of oats at 75 cents a bushel. There was considerable enquiry for winter-keeping apples, which are scarce, but fall apples are not in much demand. In Norfolk, where a number of apple organizations exist, No. 1's were selling at from \$4 to \$5.50 a barrel, according to variety. Hogs show a greater variation in price than for months, the range being from \$18.25 to \$19.50. Norfolk stated that the supply of hogs was likely to keep up in the immediate future. Lambs have been selling in Glengarry during the week at \$15 each. Requests for farm labour were largely local or special. There had been considerable demand in Kent for men to harvest beans, corn and tobacco, and some hands from North Carolina were working in the tobacco fields at \$35 a week and board, with travelling expenses both ways paid.

Saskatchewan.—A telegram of September 9 stated that the preliminary estimate indicated an average yield of wheat per acre of 10.8 bushels, and a total wheat yield of 98,464,845 bushels. Of wheat 90 and of oats 40 p.c. had been cut.

Alberta.—The following telegram was received on September 14: "Threshing general throughout the southern portion of the province with returns quite equal to expectations; sample good, central portion of the province reports 75 p.c. of harvest completed. Threshing started at different points. Weather in general has been favourable during the week for harvest. Operations with frost at a few points sufficient to injure late grains somewhat, but little damage on the whole can result as most grains were too far advanced. Peace River district reports splendid weather and good progress in harvest operations. Crop estimate 40 p.c. wheat, 60 p.c. oats, 30 p.c. barley. Labour has been scarce in many places, but conditions somewhat improved latter part of week."

British Columbia.—The British Columbia Department of Agriculture telegraphed (September 12) the following as the condition of crops in August, the condition being expressed in percentage of a standard crop: Spring wheat, barley and rye 80, oats 73, peas 83, beans 88, mixed grains 89, corn for husking 95, potatoes 86, turnips 85, mangolds, carrots 86, hay and clover 75, alfalfa 85, fodder corn 81, sugar beets 69, pasture 81.

TELEGRAPHIC CROP REPORTS.

A summary of telegraphic reports received on the condition of field crops in Canada at the end of August was issued on September 4, 1918, by the Dominion Bureau of Statistics as follows:—

Atlantic Provinces.—PRINCE EDWARD ISLAND (Charlottetown): Hay crop will be up to average. Small fruits medium; crop early. Harvesting started with indications of heavy crop. Slow growth in corn. Potatoes promise an excellent crop. NOVA SCOTIA

(Nappan): Roots and grain made excellent growth. Potatoes and beans fair. Blight in potatoes prevalent. Hay slightly below average, but cured in good condition. Turnip feed ripening nicely. (Kentville): Grains which are an excellent crop have ripened well, and considerable has been harvested. Roots are looking well. Potatoes have shown considerable early blight. Apples a medium crop. NEW BRUNSWICK (Fredericton): Conditions good for an average hay crop and for ripening grain. A record yield of wheat and oats now assured. Corn is generally a failure. Early potatoes of good quality, but yield is disappointing. Turnips good where not attacked by aphids.

Quebec.—ROBERVAL (Chicoutimi and Saguenay): Hay harvest has been comparatively good. Frost in certain places has injured tobacco and potatoes. Cereals are ripening well and promise a good yield, especially wheat. STE. ANNE DE LA POCA TIÈRE (Kamouraska): Weather conditions favourable for ripening of cereals, the first sown of which are very good. Late sown cereals will probably not ripen. Potatoes injured by late blight, and drought of late date lessens the prospects of a general heavy yield. European plums a failure; apples half a crop. Hay good. CAR ROUGE: All grain very good, except barley, which is good. Early potatoes are extra; late potatoes are commencing to suffer from blight. Apples are poor, and there are practically no plums. Roots for stock are good, but corn for silage is the worst crop in years. LENNOXVILLE: Hay an average crop. The grain harvest is one of the best for some time. Roots are promising; silage corn poor. MAKAMIK (Pontiac): Haying done; quality fair. Yield of early sown grain probably 15 p.c. above average; late sown very poor. Vegetables average, though potatoes badly frosted in places.

Ontario.—The Ontario Department of Agriculture reports that fall wheat is a fifty per cent crop of good quality. Barley, oats and spring wheat are well harvested; the yields and quality of grain are excellent, and the straw is clean. Peas good; beans fair; silo corn promising; early potatoes fair; late ones poor. Roots are now recovering from drought, pastures are reviving. The labour situation during harvest was nicely met. OTTAWA (Central Experimental Farm): The harvesting of grain is about completed, and the threshing yields are extra good, being decidedly above average. The corn crop is not quite up to the average; it is very good in some sections, particularly near Ottawa, but in other districts it is not so good, owing to the unfavourable weather of June and poor seed. Roots are a fair crop, recent rains having benefited turnips and mangolds very materially.

Manitoba.—MORDEN (Experimental Farm): Probably fifty per cent of the grain crops are already cut and nearly as much in stook. The heads are especially well filled and the kernels plump. The wheat crop will be above average in this section, with oats and barley bumper crops. No hail or frost injury, but rust prevalent. Rust and wet weather have combined to make harvest difficult. No threshing has been done. Potatoes promise to be a record breaker; certainly 400 bushels to the acre on this Farm. Many vegetables slow to ripen on account of cool weather and great rainfall.

Saskatchewan.—The Saskatchewan Department of Agriculture reports that the recent rains have changed conditions in the southern and central parts of the province for the better, and the crop yield will be higher than anticipated. The southwestern and west central districts report that while the rains came too late to increase the crop yields to any great extent, yet the later sown grains will be greatly benefited and will result in much more feed than was thought would be available. In the northwestern, northeastern and the northern parts of the east central districts frost has inflicted serious damage, varying from five to seventy-five per cent. INDIAN HEAD: All grain has filled exceptionally well; no damage from frost, hail or rust reported from this district. Seventy per cent of wheat cut. Conditions have improved greatly, and yield will be heavier than first expected, while sample will be exceptionally good. SCOTT: Fine weather prevailing; some rain late in month. Wheat harvest well advanced, but extremely light; early oat crop poor. Some late crops will require three to four weeks free from frost. Barley improved. Potato crop generally very late.

Alberta.—The Alberta Department of Agriculture telegraphs that the harvest is in full swing throughout the province, and a fair crop is being reaped. Outlook in Peace River country very optimistic. Weather somewhat irregular, considerable rain having fallen in many parts. Outlook for the live stock problem promising. LACOMBE: Rains have greatly benefited green feed and pastures and relieved the feed situation materially. Later grain for threshing also filled better than expected at time. LETHBRIDGE: The wheat harvest in southern Alberta well advanced. In many localities, in drier districts, it is already completed, and threshing in isolated cases started. This part of the province will produce enough wheat for seed next season and have some to spare, but the oat and barley crop is almost nil.

British Columbia.—AGASSIZ: Unsatisfactory harvesting weather during August. Precipitation 7.94 which is 5.3 inches more than average for twenty-seven years. Grain badly discoloured; a quantity which germinated in sheaf straw only fit for bedding. Roots promise good crop. Potatoes blighted. Second crop of clover much improved. INVERMERE: Crops generally under irrigation are very good; dry farming results poor. Heavy crop of second cut clover and alfalfa has been cut. Wheat, barley, corn and roots very good; oats fair. SUMMERLAND: Apricots, peaches, plums and pears exceeded expectations. Winter apples, owing to increased size, may reach seventy five per cent of last year. Much hay

was harvested in poor condition on account of rain, but rain has helped dry farmers. Some farmers who expected nothing will be able to cut grain for hay. SIDNEY, V. I.: All crops harvested in good condition. Twenty five per cent threshing done. Very dry. Ploughing difficult. Pastures short: supplementary feeding necessary for dairy cattle. Live stock being slightly reduced. Feed of all kinds high in price.

STOCKS OF GRAIN IN CANADA ON AUGUST 31, 1918.

In Table I are given the results of the compilation of returns received from Crop Correspondents estimating the quantities of wheat, barley and oats in the hands of farmers at the close of the Canadian year crop on August 31, 1918. The corresponding figures for 1916 and 1917 are included. The returns for 1918 are remarkable as indicating an almost absolute clearance by farmers of their stocks of 1917 grain, especially as regards wheat and barley.

I. Wheat Barley, and Oats in Farmers' Hands on August 31, 1916, 1917 and 1918.

Field Crops.	Total production in 1915.		In farmers' hands, Aug. 31, 1916.		Total production in 1916.		In farmers' hands, Aug. 31, 1917.		Total production in 1917.		In farmers' hands, Aug. 31, 1918.	
	000 bush.	p.c.	bush.		000 bush.	p.c.	bush.		000 bush.	p.c.	bush.	
Canada—												
Wheat.....	426,747	3.20	13,657,500		262,781	1.14	2,997,300		233,743	0.19	431,340	
Barley.....	60,699	3.27	1,986,230		42,770	0.98	418,740		55,058	0.64	354,210	
Oats.....	523,684	7.62	39,916,700		410,211	4.00	16,524,500		403,010	2.13	8,577,800	
P.E. Island—												
Wheat.....	654	3.25	21,200		578	2.44	14,000		522	0.85	4,400	
Barley.....	107	0.32	340		105	0.32	340		100	0.10	110	
Oats.....	6,833	2.25	153,700		7,413	3.04	225,000		6,482	1.64	106,300	
Nova Scotia—												
Wheat.....	247	1.50	3,700		261	—	—		255	0.48	1,200	
Barley.....	128	0.71	900		123	—	—		119	—	—	
Oats.....	3,488	3.00	104,600		4,031	—	—		3,598	0.63	23,000	
New Bruns- wick—												
Wheat.....	267	1.00	2,700		242	2.19	5,300		192	0.23	440	
Barley.....	48	0.29	140		45	1.56	700		40	—	—	
Oats.....	5,560	2.50	139,000		6,039	4.66	281,000		4,275	0.80	34,000	
Quebec—												
Wheat.....	1,411	3.00	42,300		960	0.21	2,000		3,884	0.70	27,200	
Barley.....	2,255	2.50	56,400		1,456	0.17	2,500		3,064	0.20	6,100	
Oats.....	42,182	6.00	2,531,000		24,411	0.84	205,000		32,466	1.30	422,000	
Ontario—												
Wheat.....	30,252	7.75	2,345,000		17,931	1.46	262,000		16,318	2.14	349,000	
Barley.....	15,369	5.38	827,000		7,498	0.71	53,000		11,191	1.10	122,000	
Oats.....	122,810	10.00	12,810,000		50,771	2.25	1,142,000		98,076	4.40	4,315,500	
Manitoba—												
Wheat.....	79,434	2.00	1,588,700		29,667	0.30	89,000		41,040	—	—	
Barley.....	20,644	2.50	516,100		13,729	1.07	147,000		15,930	0.56	89,000	
Oats.....	63,965	5.00	3,198,300		48,439	3.14	1,521,000		45,375	1.72	780,000	
Saskatchewan—												
Wheat.....	243,481	3.00	7,304,400		147,559	1.05	1,549,000		117,921	—	—	
Barley.....	10,497	2.00	210,000		9,916	0.82	81,000		14,068	0.37	52,000	
Oats.....	171,765	7.25	12,453,000		163,278	5.32	8,686,000		123,214	0.21	25,900	
Alberta—												
Wheat.....	70,476	3.33	2,346,900		65,088	1.65	1,074,000		52,992	0.69	36,600	
Barley.....	11,544	3.25	375,200		9,774	1.37	134,000		10,386	0.82	85,000	
Oats.....	102,692	8.25	8,472,100		102,199	4.35	4,446,000		86,289	3.25	2,804,000	
B. Columbia—												
Wheat.....	525	0.50	2,600		495	0.40	2,000		619	2.02	12,500	
Barley.....	107	0.14	150		124	0.17	200		161	—	—	
Oats.....	4,391	1.25	55,000		3,630	0.51	18,500		3,236	2.10	67,600	

In addition to the inquiry respecting grain in farmers' hands, a schedule was addressed to a selection of 100 of the largest country elevator companies with the object of ascertaining what quantities of wheat, barley and oats were in store in those elevators on August 31, 1918. In reply returns were received from 77 companies representing a total of 2,563 elevators operated, the 23 companies who failed to reply representing 336 elevators. The quantities reported to be in store in these 2,563 country elevators on August 31, 1918, were as follows: Wheat 414,591 bushels, barley 204,241 bushels and oats 426,627 bushels. The quantities of wheat, barley and oats in store in the terminal and public elevators on August 31, 1918, were recorded in the Weekly Bulletin of the Department of Trade and Commerce of September 9, 1918. The total quantities of wheat, barley and oats in Canada at the end of August 1918, as compared with the end of August 1917 were, according to these three separate sources of information, as shown in Table II.

II. Quantities of Wheat, Barley and Oats in Canada, August 31, 1917, and 1918.

Quantities in—	Wheat.		Barley.		Oats.	
	Aug. 31, 1917.	Aug. 31, 1918.	Aug. 31, 1917.	Aug. 31, 1918.	Aug. 31, 1917.	Aug. 31, 1918.
	bush.	bush.	bush.	bush.	bush.	bush.
Farmers' hands.....	2,997,300	431,340	418,740	354,210	16,524,500	8,577,800
Terminal elevators.....	1,140,860	16,878	128,840	460,560	3,482,913	3,063,667
Public elevators.....	2,393,425	3,120,215	105,794	434,479	2,811,312	2,901,296
Country elevators.....	932,837	414,591	64,765	204,241	552,119	426,627
Total.....	7,464,422	3,983,024	718,139	1,453,490	23,370,844	14,969,390

The table shows therefore that about 4 million bushels of wheat, 1,453,500 bushels of barley and 14,969,000 bushels of oats constituted the "carry over" into the new crop year ending August 31, 1919. The figures represent actual returns, except in the case of the quantities in farmers' hands, which are estimated from the reports of Crop Correspondents. The totals are under rather than over the mark, because account is not taken of grain in transit, of grain in country elevators from which returns were not received or grain in flour mills, nor of grain in retail hands.

INFLUENCE OF THE WEATHER UPON THE GROWTH OF SPRING WHEAT.

The accompanying table presents the data collected during August from Crop Correspondents in continuation of the records published in the Bulletin of May, 1918, p. 136, June, 1918, p. 171, July, 1918, p. 201 and August, 1918, p. 231. For the month of August the observations had reference to the dates (1) when heading was general; (2) of flowering stage; (3) of reaching milk stage; (4) of first cutting; (5) when cutting was general and (6) of completion of cutting.

Dates of Heading, Flowering, Milk-stage and Cutting of Spring Wheat, 1918.

Province and District.	Heading General.					Flowering Stage.					Milk-stage.				
	No. of re-plies.	Aug. 1-7.	Aug. 8-14.	Aug. 15-21.	Aug. 22-31.	No. of re-plies.	Aug. 1-7.	Aug. 8-14.	Aug. 15-21.	Aug. 22-31.	No. of re-plies.	Aug. 1-7.	Aug. 8-14.	Aug. 15-21.	Aug. 22-31.
Prince Edward Island.....	9	5	2			14	4	7	3		18	1	7	4	6
Nova Scotia.....	14	8	4	2		12	2	4	4		22		6	12	4
New Brunswick.....	13	10	2	1		14		10	4		23	5	2	11	5
Quebec.....	39	15	14	9	1	71	24	16	25	6	105	15	24	46	20
Eastern Ontario.....											1	1			
Central Ontario.....							1	1			1	1			
Southern Ontario.....															
Western Ontario.....															
Northern Ontario.....	1	1						1			4	4	2		
North Manitoba.....	1			1		1	5		1		7	2	2	2	1
South Manitoba.....	2	2				4	1		1		24	8	10	6	
North Saskatchewan.....	1	1				8	6	2	1		36	11	6	5	
South Saskatchewan.....						3	2				21	15	11	10	
North Alberta.....	1					5	2			1	16	11	7	3	
South Alberta.....	3	1	1	2		2		3			4	5	6	5	2
British Columbia.....	2	2							1		2	1	1		

Dates of Heading, Flowering, Milk-stage and Cutting of Spring Wheat, 1918—con.

Province and District.	First Cutting.					Cutting General.					Completion of Cutting.				
	No. of re-plies.	Aug. 1-7.	Aug. 8-14.	Aug. 15-21.	Aug. 22-31.	No. of re-plies.	Aug. 1-7.	Aug. 8-14.	Aug. 15-21.	Aug. 22-31.	No. of re-plies.	Aug. 1-7.	Aug. 8-14.	Aug. 15-21.	Aug. 22-31.
Prince Edward Island.....	13	—	—	1	12	—	—	—	—	—	—	—	—	—	—
Nova Scotia.....	26	—	1	6	19	12	—	—	—	12	—	—	—	—	—
New Brunswick.....	22	—	—	2	20	8	—	—	—	7	3	—	—	—	3
Quebec.....	198	19	31	81	67	156	1	8	51	96	78	2	—	8	70
Eastern Ontario.....	12	6	4	2	—	15	3	6	4	2	20	2	1	9	8
Central Ontario.....	11	3	5	2	1	14	1	6	5	2	17	1	2	10	4
Southern Ontario.....	10	5	4	1	—	13	6	3	4	—	15	1	5	8	4
Western Ontario.....	20	4	10	6	—	28	3	12	12	1	27	—	2	15	10
Northern Ontario.....	27	5	4	12	6	23	—	5	7	11	16	—	—	2	14
North Manitoba.....	45	2	4	16	23	34	—	1	6	27	8	1	—	1	6
South Manitoba.....	48	2	10	29	7	49	—	3	20	26	13	—	—	—	13
North Saskatchewan.....	82	1	2	39	40	72	—	—	13	59	5	—	—	—	5
South Saskatchewan.....	76	3	12	36	25	67	—	2	13	52	7	—	—	—	7
South Alberta.....	35	1	2	21	11	36	—	—	11	25	7	—	—	1	6
South Alberta.....	25	6	6	8	5	22	—	3	11	8	12	—	—	—	12
British Columbia.....	10	3	4	1	2	14	1	2	6	5	11	—	1	3	7

The table shows that, except in the Maritime provinces, cutting was most general during the last two weeks of August, and that many correspondents reported the completion of cutting before the end of that month. The questions have not been so numerously responded to in Ontario as in the other provinces.

DOMINION EXPERIMENTAL FARMS AND STATIONS.

Central Farm, Ottawa.—The weather during August was moderately warm and dry for the first five days, and from the 6th to the 14th it continued to be warm but with showers. From the 15th to the 22nd, a dry spell was experienced, and since then it has been warm with occasional light showers. The highest temperature recorded is 92, the lowest 43·8 and the mean 67·59, while for the corresponding period in 1917 the highest was 99·6, the lowest 46 and the mean 67·86. The precipitation, which is considerably below the average, totals 2·92 inches, distributed over thirteen different days, the heaviest fall in twenty-four hours being 0·67 of an inch on the 13th, compared with 3·4 inches, which fell on fifteen days, in August, 1917, and an average of 3·44 inches for August during the previous seven years. The bright sunshine recorded, which is greater than usual, averages 9 hours a day, as against 7·77 hours a day for this time last year.

At the Experimental Farm, oats were cut and threshed early in the month, an area of about seventy acres averaging 76 bushels per acre, which is considerably better than usual. Oats have also done well in the Ottawa district generally. Roots have made good progress and should give an average return. At the Farm, there is a heavy crop of Indian corn, but in this section generally the yield is likely to be considerably lighter than usual. The second crop of clover hay harvested on the Experimental Farm towards the close of the month, has given a little better than three-quarters of a ton per acre, while the first cutting, as reported in July, gave a little over 2½ tons to the acre.

Charlottetown, P.E.I.—J. A. Clark, Superintendent, reports:—“Frequent showers during the early part of August greatly retarded late haying operations. The crop on the whole is well up to the average. The earliest harvesting reported was wheat, cut on the 19th. Although fine weather is ripening the grain very rapidly, harvesting will not be general until perhaps the first week in September. All cereals are very promising. Small fruits have given low returns, while the apple crop is likely to be less than half the average. Potatoes are good, and turnips and other roots are up to the average. Towards the close of the month, potato blight has been reported from some sections. The fall web worm is reported over widely distributed areas, and it is feared may prove a menace.”

Kentville, N.S.—W. S. Blair, Superintendent, reports:—“The rainfall during August has been less than usual, but in other respects

the weather has been about normal. Conditions have been ideal for haying and for harvesting cereals. The grain yield is heavier than usual, and the crop is of excellent quality. Roots are likely to give a good return, while corn and potatoes promise to be fair. In some sections, frost on the 12th and the 28th is reported to have caused damage to crops.

Nappan, N.S.—W. W. Baird, Superintendent, reports:—"Exceptionally fine weather has prevailed during August. Light rains have been experienced on four different days, the precipitation totaling 1.33 inch. The mornings have been mostly cool and foggy, and hay-making during the first part of the month was rather slow. However, very little hay has been spoilt by the rains, and most of it has been stored in good conditions; but this crop on the whole is slightly below the average. Information gathered from farmers is that the newly-seeded land is as good as, if not better than, last year; but that the old ground is much below the average. Marshes, in this district particularly, will on the whole yield considerably less than a year ago, due principally to flooding last fall. Early sown roots and grain in this district give promise of excellent returns—especially the grain, which will be much above last year's average if good conditions for harvesting prevail. Potatoes and beans have done but fair. Blight in the former has been quite prevalent throughout this district, especially on fields not properly sprayed. At this Farm, the area, sixteen acres, devoted to the growing of turnips for seed has done nicely, and, with good weather for harvesting, encouraging returns may be expected.

Fredericton, N.B.—W. W. Hubbard, Superintendent, reports:—"August has been cool and dry, with more sunshine than in 1917, and slightly more than the average of the same period during the past forty-three years. Conditions have been suitable for most crops, but not for corn. The season has been a favourable one for all cereals, and New Brunswick, undoubtedly, has one of its very best crops of oats and wheat in its history. It is probable, though, that the potato crop in this section will be disappointing. Late blight got a foothold during the very wet spell in July, and, although the weather since has not been conducive to the growth of spores, the disease has remained, and even in sprayed fields the crop has been affected. Where thorough spraying has been regularly attended to the tops have continued greener than where spraying was done indifferently or neglected. No fields, however, seem to be entirely free from the disease. Turnips have been much damaged by aphids, while in a few instances potatoes have also suffered from the same cause. However, root crops generally promise pretty well. The turnip seed crop at this Station, which is being harvested piecemeal as ready, is ripening very unevenly; there is a large part still green and most of the plants are still blossoming. Pastures have not been so good as in July, and live stock is not in as good condition as last month."

Ste. Anne de la Pocatière, Que.—Jos. Bégin, Superintendent, reports:—"August has been dry and bright compared with the previous months. The highest temperature recorded is 83·2, the lowest 34·8 and the mean 56·7, compared with extremes of 90·7 and 36·6 and a mean of 59·7 for the same period in 1917. The precipitation totals 1·01 inch, distributed over seven days, against 3·63 inches, distributed over fifteen days in 1917. The bright sunshine averages 7·82 hours a day, against a daily average of seven hours in August, 1917. Haying in this district has been carried on under favourable conditions. At the Station, the second cutting towards the close of the month, gave 1·5 ton per acre, while 3 tons per acre came from the same land earlier in the season. About half the Station's cereal crop has been harvested during the month, and the threshing has been begun. During the later part of August, the hoed crops have made fair growth; but the yield, although prospects have improved, is likely to be much below the average for corn and roots. Potatoes on dry land seem to have suffered considerably from the last drought. Late blight, also, seems to affect late sown potatoes. On the 7th and the 13th, demonstrations in spraying, ploughing, and land cultivation were given at the Station, and the appropriate hints given to all as to spraying and regarding land preparation for the next crops seemed to be very much appreciated by the visitors, who numbered for the two days over nineteen hundred farmers from the district."

Cap Rouge, Que.—G. A. Langelier, Superintendent, reports:—"August has been a little cooler, considerably drier, and much brighter than the average for this period during the past six years, the figures being respectively 62·64 and 63·12 for mean temperature, 2·90 and 4·91 inches for precipitation, and 239·1 and 194·2 for hours of sunshine. The hay crop was all stored by the middle of the month, being the largest at the Station in years. By the 31st, the barley, wheat and peas are cut, as well as practically all the oats. Grain, both at the Station and in the district, is very good and more wheat has been grown than usual. The new "Fordson" tractor has been tried for disk harrowing, for hauling manure, and also for loading hay, and has proved satisfactory to date. There have been excursions to the Stations during August, some of them patronized by 250 or more farmers, and they seemed interested in the experiments, now numbering over 130, under way at Cap Rouge with live stock and plants. An exhibit was sent to the Three Rivers Exhibition, and was awarded a diploma."

Lennoxville, Que.—J. A. McClary, Superintendent, reports:—"The weather during August has been generally fair, with some rain. Frosts on the night of the 18th and 19th did considerable damage to corn, beans, and tender plants in the gardens in certain sections of this district. The highest temperature recorded is 88, compared with 92 a year ago, and the lowest is 30, compared with 45 last year and 40 two years ago; while the mean temperature is 62·27 against 65·12

during the corresponding time in 1917. The precipitation totals 2.39 inches, compared with 8.27 inches in 1917 and 3.91 inches in August, 1918. The bright sunshine recorded aggregates 230.5 hours, compared with 227.3 hours a year ago. The hay was practically all harvested by the 10th, yielding an average crop. The latter part of the month has been very favourable for the grain harvest, which is one of the best ever experienced in this district. Roots and potatoes are promising. Indian corn is poor on account of cool weather and injury by frost."

Brandon, Man.—W. C. McKillican, Superintendent, reports:—"August has been a showery month and favourable for growth of crops. The rainfall totals 2.09 inches. Crops have improved greatly during the month, especially the later-ripening fields. Some early fields were too far advanced and too badly damaged by early drought to be saved by this good weather; but any crops that came through the drought in fair condition have made wonderful development during the month. Cutting was general from about the 15th to the 20th, and wheat was nearly finished and other grains well started at the end of the month. Generally speaking, in Manitoba there has been no damage from frost and very little from other causes. At the Experimental Farm, the cutting of grain has been completed and the threshing of wheat has also been finished."

Indian Head, Sask.—W. H. Gibson, Superintendent, reports:—"August has been warm, with heavy showers between the 5th and 22nd, which brought all crops on very markedly and caused grain to fill exceptionally well. Harvesting commenced about the 16th, and was general by the 22nd, seventy per cent of the oats being cut by the 31st. Notwithstanding harvest help is not plentiful and stooking is somewhat behind, with fine weather during the coming week this work should be well caught up with in this district. Fodder corn has made wonderful growth during August and will yield better than for several seasons. The potato crop will be up to average both in yield and quality.

Rosthern, Sask.—Wm. A. Munro, Superintendent, reports:—"The thermometer has not dropped to freezing at all during August. The frost of July has had no serious effect upon cereals, except in the case of some winter rye, which was slightly frozen; potatoes and tomatoes were the only vegetables injured and they seem to have revived. Grain crops in this district promise to yield quite up to the average. At the Station, a field was sown to winter rye and oats during the last week in June, 1917; some green feed was cut from this last autumn, and on August 7th, 1918, a good crop of winter rye was harvested. Another field, sown to winter rye on August 31st, 1917, was also harvested on August 7th, 1918, with approximately the same yield as that from the field sown to oats and rye."

Scott, Sask.—M. J. Tinline, Acting Superintendent, reports:—"Unusually fine weather has prevailed during August, with light showers falling during the last few days of the month. Crop conditions have improved somewhat as a result of 1.58 inch of rain that fell on July 27th. The feed situation, in particular, has been helped by a second growth appearing in the drought stricken and the frosted crops. This second growth, even though it does not mature, will make good hay. Hay is in good demand here and is selling at from \$14 to \$16 per ton, f.o.b. points of shipment. In many sections, the potato crop gives promise of being almost a total failure, owing to drought and damage to the vines by the late July frosts."

Lacombe, Alberta.—G. H. Hutton, Superintendent, reports:—"Comparatively heavy rains during the last three weeks of August have greatly benefited green feed crops, and have caused a wonderful improvement in pastures, with the result that the feed situation throughout this part of the province is materially improved as compared with conditions at the end of July. At the close of the month, harvesting is practically half finished, wheat being 50 p.c. cut, barley 90 p.c., and oats about 35 p.c. The quality of the grain will be good, with the yield about an average one, though the quantity of straw that will be available for feeding purposes will be below normal. No frost has been recorded during the month."

Lethbridge, Alberta.—W. H. Fairfield, Superintendent, reports:—"The wheat harvest in southern Alberta is well advanced; in fact, in many of the localities in the drier districts it has been completed and, in a few isolated cases, threshing has started. The only grain worth cutting in practically all of southern Alberta is that which was sown on summer-fallow. As the common practice is to sow only wheat on summer-fallow, and to put in oats and barley on fall and spring ploughed land, the result is that the amount of oats and barley produced is very little indeed. On the irrigated lands in the Lethbridge district, the farmers are still busy with their second cutting of alfalfa, which in many cases is heavier than the first this season. At the Station, threshing has been started. The yields of grain on the irrigated part of the farm are good, but on the non-irrigated land they are very light. The best yield of wheat on summer-fallow is only at the rate of eighteen bushels to the acre."

Invermere, B.C.—G. E. Parham, Superintendent, reports:—"The drought which has continued during May, June and July, at length lifted, and the crops have greatly benefited by the generous rains which have occurred during August, a total precipitation of 3.23 inches being recorded. Although rain fell on fifteen days, there is a total sunshine record of 214 hours. Weather conditions have been favourable for the harvesting of the second cutting of clover and alfalfa, the yields from which have been exceptionally heavy. Most of the grain has been cut, the irrigated plots showing a good yield. Fodder corn, roots, and forage plants have made good growth,

and vegetables are above the average, both as to size and quality. The Windermere district fall fair, held on the Experimental Station grounds on the 28th and the 29th, brought together a large number of ranchers and other visitors."

Summerland, B.C.—R. H. Helmer, Superintendent, reports:—"The yields of apricots, plums and peaches have exceeded expectations, while pears are a good crop. The winter apple crop may, owing to increased size, reach 75 p.c. of last year. Much hay was out during rains and, consequently, has been harvested in poor condition. Rain has helped dry-farmers throughout the valley, and some who had been expecting nothing, will be able to cut some grain for hay. The cool weather has held back all hot weather vegetables. Mangold seed has been harvested, and carrot seed is being gone over the second time. The third crop of alfalfa at this Station is being cut and harvested."

Agassiz, B.C.—W. H. Hicks, in charge, reports:—"This month, with a precipitation of 7.94 inches, is the wettest August recorded since the rain gauge was installed on the Farm in 1892. The average August rainfall for the past 27 years is 2.61 inches. The very heavy precipitation, along with warm, sultry, calm weather, made conditions very poor for harvesting. Quite a large percentage of the grain is very badly discoloured, while some has germinated in the sheaf. The straw is of poor quality and will make unsatisfactory feed. Pastures and root crops have greatly revived, and, although the rain came late to make a good second cutting of clover, it will be better than was anticipated early in the month. The potato crop is suffering from a serious attack of blight. Live stock and poultry are in good condition."

Sidney, Vancouver Island, B.C.—Lionel Stevenson, Superintendent, reports:—"Showers distributed throughout August relieved the conditions resulting from the drought and have benefited pasture areas, corn, and roots, and made ploughing possible. Grain harvesting is completed by the 31st, and 25 p.c. of the threshing and straw baling has been done. Autumn sown crops have given satisfactory returns, while spring seedings, as a rule, have been yielding only half the normal crop. Some ploughing has been done in preparation for wheat and other autumn cereals. Orchard fruits have made satisfactory development. Plums and pears ripened earlier than usual. The greater portion of these crops has been harvested and disposed of at satisfactory prices. Seed areas of carrots, mangolds, beets, spinach, peas, beans, kale and turnips have been harvested, all giving yields above the average. The supply of poultry products has declined somewhat during the month, fewer fowl being kept than usual owing to the high cost of feed. The live stock of the district is in fair condition. The numbers of dairy cattle have been reduced by approximately 5 p.c."

Meteorological Record for August, 1918.

The records of temperature, precipitation and sunshine at the Experimental Farms and Stations for the month of August are given in the following table:—

Experimental Farm or Station at—	Degrees of Temperature F.			Precipitation in inches.	Hours of Sunshine.	
	High-est.	Low-est.	Mean.		Possible.	Actual.
Ottawa, Ont.....	92.0	43.8	67.59	2.92	436	279.1
Charlottetown, P.E.I.....	82.0	42.0	62.16	1.37	436	254.1
Kentville, N.S.....	88.0	37.0	61.80	1.72	435	234.2
Nappan, N.S.....	80.0	33.0	60.10	1.33	437	235.2
Fredericton, N.B.....	84.0	42.0	62.30	1.52	437	239.2
Ste. Anne de la Pocatière, Que.....	83.2	34.6	56.70	1.01	440	242.4
Cap Rouge, Que.....	83.0	39.2	62.64	2.09	437	239.1
Lennoxville, Que.....	88.0	30.0	62.27	2.39	436	230.5
Brandon, Man.....	87.0	37.8	60.40	2.09	447	221.6
Indian Head, Sask.....	90.0	40.0	61.23	3.02	448	221.9
Rosthern, Sask.....	86.3	37.8	62.03	0.42	446	280.7
Scott, Sask.....	93.0	35.2	61.20	0.93	446	266.3
Lacombe, Alta.....	89.8	32.7	59.29	3.93	455	242.3
Lethbridge, Alta.....	93.0	33.5	62.50	1.23	446	314.9
Invermere, B.C.....	89.0	33.0	58.40	3.23	449	214.0
Summerland, B.C.....	88.0	44.0	64.73	1.62	447	236.6
Agassiz, B.C.....	86.0	35.0	62.04	7.94	445	180.9
Sidney, Vancouver I., B.C.....	77.0	45.0	60.50	1.41	444	256.2

J. H. GRISDALE,

September 13, 1918.

Director Experimental Farms.

CROP REPORTS FROM OTHER COUNTRIES.

England and Wales.—The Board of Agriculture reported (Sept. 1) that the fine weather which prevailed through most of August was everywhere very favourable to harvest operations, and a great deal of grain has been got in under excellent conditions. The rain which occurred, mostly toward the end of the month, caused little delay or damage. In the north, the harvest is naturally not so far advanced, and there are more reports of the grain having been laid. Wheat has proved to be the best crop of the year throughout the country; the ears are reported to be well filled, and straw of a good length. With an area under this cereal of 2,556,000 acres and a yield now estimated at 6 p.c. above average, a production in England and Wales may be anticipated of 84 million bushels, or fully 26,400,000 bushels more than last year. Barley is about an average in the north, but rather below in most other districts; the area this year is about 1,500,000 acres, and the total production should be nearly 48 million bushels. Oats, like barley, are more favourably reported on than a month ago, and the yield now appears to be but little below the normal. The acreage has been largely increased; and it is hoped

that the 2,779,000 acres returned under this crop in England and Wales will yield 108 million bushels, or 20,800,000 bushels more than last year.

Peas and beans are also satisfactory, and nearly average crops, though the latter, owing to aphids, are not quite so good as a month ago. Potatoes are still most satisfactory, and remain unusually free from disease upon the whole. The area of 634,000 acres should yield some 153,100,000 bushels of potatoes, or 28,000,000 bushels more than last year. Turnips and swedes, though some improvement is generally noted from most parts of the country, have not recovered from the dry weather of the early summer; and fields are often very patchy. Prospects indicate accordingly a poor yield everywhere. Mangolds, although also considered to have made a little improvement, cannot be marked any higher than a month ago. Labour, both skilled and temporary, is still scarce, but with the help of women, boys, soldiers, and prisoners of war, the work has generally been satisfactorily performed, though root-fields in many districts are becoming foul. In many areas much of the grain has been cut by the use of tractors instead of horse-power, and this has been of material assistance in harvesting operations.

Summarizing the returns, and expressing an average crop by 100, the appearance of the crops on September 1 indicated probable yields which may be expressed by the following percentages: Wheat 106, barley 99, oats 99, beans 99, peas 99, potatoes 103, turnips and swedes 89, mangolds 95 and hops 74.

France.—The Journal Officiel of July 21 published the following statement of the areas sown to field crops other than cereals for 1918 as compared with 1917:

Crops.	1917.	1918.	Difference.
	acres.	acres.	acres.
Corn.....	737,900	840,600	+102,700
Potatoes.....	3,539,000	3,417,800	-121,200
Artichokes.....	260,400	266,000	+ 5,600
Sugar beets.....	177,400	169,400	- 8,000
Distillery beets.....	56,000	50,200	- 5,800
Mangolds.....	1,173,800	1,212,000	+ 38,200
Artificial meadows.....	6,597,000	6,415,600	-181,400
Temporary meadows.....	795,450	805,000	+ 9,550
Annual fodder crops.....	1,431,100	1,442,500	+ 11,400
Natural meadows.....	11,474,800	11,265,800	-209,000
Pastures.....	3,933,200	4,131,700	+198,500
Vines.....	3,878,800	3,794,600	- 84,200

The salient features of this table are that of the food crops there is an increase in corn and a decrease in potatoes. Whilst the latter showed an increase of nearly 314,000 acres over 1916, there is a loss this year of about 121,000 acres.

United States.—The Crop Reporting Board of the United States Department of Agriculture issued (Sept. 9) estimates of the yield of the principal field crops, with statement of condition as follows:

Crops.	Area.	Per cent of 1917.	Yield per acre.			Yield in millions of bushels.			
			1917.	1918. ¹	Average 1912-1916.	1917.	August forecast 1918. ¹	Sept. forecast 1918. ¹	Average 1912-1916.
	000 acres.	p. c.	bush.	bush.	bush.	bush.	bush.	bush.	bush.
Winter wheat...	—	—	15.2	15.3 ²	15.7	418	556 ²	556 ²	552
Spring wheat....	22,489	121.5	12.6	15.2	13.1	233	322	343	257
All wheat.....	58,881	128.2	14.2	15.3	14.7	651	878	899	809
Corn.....	113,835	95.1	26.4	23.5	26.0	3,159	2,989	2,672	2,761
Oats.....	44,475	102.1	36.4	33.2	31.2	1,587	1,428	1,477	1,296
Barley.....	9,108	103.1	23.7	25.9	25.1	2.09	232	236	202
Rye.....	5,435	132.5	14.7	14.1 ²	16.1	60.1	76.7 ²	76.7 ²	44.5
Buckwheat.....	1,045	103.9	17.4	19.2	19.0	17.5	20.6	20.1	15.3
White potatoes..	4,113	93.7	100.8	93.5	95.9	443.0	391	385	362
Sweet potatoes..	959	100.6	91.4	84.5	93.6	87.1	84.5	81.0	63.6
Flax.....	1,967	108.7	4.7	8.1	8.2	8.5	14.8	15.9	17.5
			ton	ton	ton	tons	tons	tons	tons
Hay (all).....	69,249	98.9	1.36	1.25 ²	1.34	94.9	99.3	86.3 ²	95.4
	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
Tobacco.....	1,453	100.4	827.1	838.2	816.0	1,196	1,228	1,218	1,033

¹Interpreted from condition reports.

²Preliminary estimate.

The condition of spring wheat on September 1, 1918, or at the time of harvest was 82.1 p.c. of the normal, as compared with 71.2 p.c. last year and 73.4 p.c. the ten-year average. Corn is 67.4 p.c. as compared with 76.7 p.c. last year and 74.8 p.c. the average; oats are 84.4 p.c., as compared with 90.4 p.c. last year and 80.3 p.c. the average; barley is 81.5 p.c., as against 76.3 p.c. last year and 78.7 p.c. the average. Of other crops the condition on September 1 was as follows: Buckwheat 83.3, against 90.2 and 84.6; white potatoes 74.5, against 82.7 and 75.1; sweet potatoes 74.5, against 85.7 and 83.6; tobacco 82.4, against 84.5 and 79.1; flax 72.6, against 50.2 and 74.5; rice 83.7, against 78.4 and 87.2; sugar beets 86.8, against 91.7 and 89.4.

The total yield of wheat is now estimated at 899 million bushels as compared with 651 million bushels last year and 809 million bushels, the average for the years 1912-16. The estimated yield of corn is 2,672,000,000 bushels, as compared with 3,159,000,000 bushels last year, and 2,761,000,000 bushels the average of the years 1912-16.

International Institute of Agriculture.

Statistics of Live Stock.—The following statistics as to the numbers of farm live stock in New Zealand, Denmark and Sweden

are from the August Monthly Bulletin of Agricultural and Commercial Statistics, published by the International Institute of Agriculture:—

Country and description of live stock.	Jan. 31, 1916.	Jan. 31, 1917.	Increase (+) or decrease (—)	Increase (+) or decrease (—) per cent.
New Zealand—				
Horses.....	371,331	373,600	+ 2,269	+ 0.6
Asses and Mules.....	246	320	+ 74	+30.1
Cattle.....	2,417,491	2,575,230	+ 157,739	+ 6.5
Sheep.....	24,788,150	25,270,386	+ 482,236	+ 1.9
Goats.....	17,601	18,235	+ 634	+ 3.6
Pigs.....	297,501	283,770	+ 13,731	— 4.6
Denmark—	Feb. 20, 1917.	Feb. 5, 1918.		
Horses.....	538,395	510,615	— 27,780	— 5.2
Cattle.....	2,452,853	2,141,684	— 311,169	—12.7
Sheep.....	267,979	247,213	— 20,766	— 7.7
Pigs.....	1,650,623	513,012	—1,137,611	—68.9
Sweden—	June 1, 1916.	June 1, 1917.		
Horses.....	701,099	715,101	+ 14,002	+ 2.0
Cattle.....	2,913,159	3,020,381	+ 107,222	+ 3.7
Sheep.....	1,198,469	1,344,202	+ 145,733	+12.2
Goats.....	131,788	135,690	+ 3,902	+ 3.0
Pigs.....	1,065,396	1,029,967	— 35,429	— 3.3
Poultry.....	—	6,034,717	—	—
Turkeys.....	—	5,167	—	—
Geese.....	—	17,047	—	—
Ducks.....	—	23,179	—	—
Beehives.....	—	140,878	—	—

Production of Cereals, 1918.—The following cablegram was received on October 7, 1918:—

“England and Wales.—Production of wheat in 1918, 84,000,000 bushels compared with 57,317,000 in 1917 and 57,487,000, the average of the five years 1912-16; barley 50,000,000 bushels against 46,162,000 in 1917; oats 124,000,000 bushels against 99,719,000 in 1917; potatoes 153,000,000 against 124,693,000 in 1917. **Spain:** Production of wheat in 1918, 127,982,000 bushels against 142,676,000 in 1917 and a five years' average of 125,981,000; barley 84,464,000 bushels against 77,957,000 in 1917; oats 29,113,000 bushels against 31,116,000 last year. **Japan:** Production of wheat in 1918, 31,127,000 bushels against 25,860,000 in 1917, and a five years' average of 24,372,000; barley 76,053,000 bushels against 95,750,000 in 1917. **Egypt:** Production of wheat in 1918, 32,555,000 bushels compared with 29,835,000 in 1917, and a five years' average of 35,409,000; barley 9,870,000 against 13,598,000 last year.”

ENGLISH CROP AND LIVE STOCK RETURNS, 1918.

The English Board of Agriculture issued on August 27, 1918, a preliminary statement of the areas under field crops and of the

numbers of live stock in 1918 as compared with 1917. Table I gives the areas under field crops and Table II the numbers of live stock.

I. Areas of Field Crops in England and Wales, 1917 and 1918.

Field Crops.	1917.	1918.	Difference between 1917 and 1918. Increase (+) Decrease (-)
	acres.	acres.	acres.
Autumn sown Wheat.....	1,724,700	2,293,500	+ 568,800
Spring sown Wheat.....	193,780	263,240	+ 69,460
All wheat.....	1,918,480	2,556,740	+ 638,260
Barley.....	1,459,800	1,501,830	+ 42,030
Oats.....	2,258,910	2,778,980	+ 520,070
Rye.....	56,010	101,450	+ 45,440
Beans.....	210,590	250,690	+ 40,100
Peas.....	131,000	150,100	+ 19,100
Buckwheat.....	4,700	7,260	+ 2,560
Potatoes.....	507,990	633,840	+ 125,850
Turnips and swedes.....	972,370	910,710	- 61,660
Mangolds.....	388,840	401,290	+ 12,450
Clover and grasses.....	2,499,540	2,095,320	- 404,220
Permanent grasses.....	15,835,370	14,588,900	- 1,246,470
Hops.....	16,950	15,670	- 1,280
Orchards.....	259,450	263,060	+ 3,610
Small fruit.....	71,940	65,680	- 6,260
Other field crops and bare fallow.....	748,990	929,170	+ 180,180

The total arable area in England and Wales this year is 12,398,730 acres, representing an increase of 1,152,620 acres, or 10 p.c., over the arable area of 1917. This is the largest area returned for the past twenty years. The area under permanent grass is 14,588,900 acres, a decrease of 1,246,470 acres on the year. The total area under crops and grass thus amounts to 26,987,630 acres, as compared with 27,081,480 acres in 1917. The greater part of the grass land ploughed up has been placed under wheat and oats. The increase in the area under wheat is 638,260 acres, or 33 p.c., and the total now under this crop amounts to 2,556,740 acres, which is the largest since 1884. Oats this year cover 2,778,980 acres, the largest on record, and 520,070 acres (23 p.c.) more than last year. The other grain and pulse crops also show increases: barley by 42,000 acres, rye by 45,000 acres, beans by 40,000 acres and peas by 19,000 acres. To these cereal areas there have to be added 141,580 acres under mixed grains now for the first time separately distinguished, the returns of such crops having previously been divided between the various grain crops, according to the kinds grown. The total area under grain and pulse (wheat, barley, oats, rye, beans, peas and mixed grains) this year thus amounts to 7,481,000 acres, as compared with 6,035,000 acres in 1917, an increase of 1,446,000 acres, or 24 p.c., and the largest area under grain since 1879.

Potatoes have been increased by 125,850 acres, or 25 p.c., and the total area (633,840 acres) is much the largest on record. Most other

crops naturally show a decline, especially turnips and swedes, which are reduced by 6 p.c. and are the lowest on record; but the mangold area is slightly greater, and flax this year covers 18,400 acres—more than seven times the area of last year, and the largest but two (in 1869 and 1870) for the past fifty years. The area under clovers, sainfoin and rotation grasses has been reduced by 400,000 acres (16 p.c.), and the total (2,095,000 acres) is the smallest on record. Of this 1,446,500 acres were reserved for hay; this also being the smallest ever returned, and representing a decline of 235,000 acres on the year. Of the permanent grass 4,300,000 acres (nearly half a million less than last year) were reserved for hay. The total hay area thus amounts to not quite 5,750,000 acres, or 730,000 less than in 1917, and the smallest since 1885.

II. Numbers of Farm Live Stock in England and Wales, 1917 and 1918.

Description.	1917.	1918.	Difference between 1917 and 1918 Increase (+) Decrease (—)	
	No.	No.	No.	p.c.
Horses—				
For agricultural purposes, including mares for breeding.....	796,040	822,430	+ 26,390	+ 3.3
Unbroken, including {One year and above....	237,400	227,560	— 9,840	— 4.1
stallions: {Under one year.....	104,360	100,070	— 4,290	— 4.1
Others.....	235,020	225,770	— 9,250	— 3.9
Total horses.....	1,372,820	1,375,830	+ 3,010	+ 0.2
Cattle—				
Cows and heifers in milk.....	1,831,440	1,858,200	+ 26,760	+ 1.5
Cows in calf, but not in milk.....	271,540	335,090	+ 63,550	+ 23.4
Heifers in calf.....	361,820	384,680	+ 22,860	+ 6.3
Other cattle: Two years and above.....	1,093,770	1,000,770	— 93,000	— 8.5
{One year and under two....	1,353,320	1,338,510	— 14,810	— 1.1
{Under one year.....	1,315,260	1,283,240	— 32,020	— 2.4
Total cattle.....	6,227,150	6,200,490	— 26,660	— 0.4
Sheep—				
Ewes kept for breeding.....	6,872,030	6,486,780	— 385,250	— 5.6
Other sheep: {One year and above.....	3,563,520	3,160,720	— 402,800	— 11.3
{Under one year.....	6,734,310	6,827,680	+ 93,370	+ 1.4
Total sheep.....	17,169,860	16,475,180	— 694,680	— 4.0
Swine—				
Sows kept for breeding.....	254,290	289,540	+ 35,250	+ 13.9
Other pigs.....	1,664,250	1,407,530	— 256,720	— 15.4
Total swine.....	1,918,540	1,697,070	— 221,470	— 11.5

Horses on agricultural holdings are practically unchanged, being just 3,000 more than last year. There is an increase of over 3 p.c. in the number used for agricultural purposes, but a decline in the younger unbroken classes. The total of cows and heifers, in milk or in calf, viz., 2,578,000, is 113,000 more than last year, and the largest on record, being nearly 100,000 more than the previous highest (1914). The increase occurs in all categories of the dairy herd, but chiefly among the cows in-calf but not in-milk. Beef cattle, however, show

a decline, particularly the older groups, and the total of all cattle, 6,200,000, is some 27,000 less than the record total of last year. Sheep show a considerable reduction in spite of a small increase in lambs: the total 16,475,000, is 4 p.c. less than last year, and (like the ewes) represents the smallest number ever kept, so far as the records show, while the number of lambs is the lowest since 1883. Pigs show a decline of 220,000 (over 11 p.c.); the total of 1,697,000 is the lowest on record. The decline is, however, entirely among "other pigs", as breeding sows show a material increase of 35,000, or 14 p.c.

FIXATION OF GRAIN PRICES, 1918-1919.

I. DOMINION OF CANADA (Wheat).

The Board of Grain Supervisors for Canada has fixed the following as the prices of wheat for the crop of 1918:

Wheat Grown in British Columbia (basis in store public terminal elevators, Vancouver).

Grade.	Price.	Grade.	Price.
	\$ c.		\$ c.
No. 1.....	2·20	Smutty No. 1.....	2·11
No. 2.....	2·17	" No. 2.....	2·08
No. 3.....	2·13	" No. 3.....	2·04
Rejected No. 1.....	2·10	No grade tough No. 1.....	2·14
" No. 2.....	2·07	" No. 2.....	2·11
" No. 3.....	2·02	" No. 3.....	2·05

Western Wheat (basis in store Fort William and Port Arthur).

Grade.	Price.	Grade.	Price.
	\$ c.		\$ c.
No. 1 Hard.....	2·24½	No. Grade Tough No. 1 Northern	2·18½
No. 1 Manitoba Northern.....	2·24½	No. Grade Tough No. 2 Northern	2·15½
No. 2 Manitoba Northern.....	2·21½	No. Grade Tough No. 3 Northern	2·09½
No. 3 Manitoba Northern.....	2·17½	Rejected No. 1 Northern.....	2·14½
No. 1 Alberta Red Winter.....	2·24½	" No. 2 Northern.....	2·11½
No. 2 Alberta Red Winter.....	2·21½	" No. 3 Northern.....	2·06½
No. 3 Alberta Red Winter.....	2·17½	Smutty No. 1 Northern.....	2·15½
No. 4.....	2·11½	" No. 2 Northern.....	2·12½
No. 5.....	1·99½	" No. 3 Northern.....	2·08½
No. 6.....	1·90½		

Eastern Wheat (basis in store Montreal).

Ontario No. 2.....	2·26	Quebec No. 2.....	2·26
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II. UNITED KINGDOM (Wheat, Barley and Oats).

By the Grain (Prices) Order 1918, dated August 31, 1918, which went into force on September 2, 1918, it is provided that no wheat, rye, oats and barley harvested in the United Kingdom in the year 1918, may be sold at prices exceeding the maximum price for each as set out below:

Date of Sale.	Wheat and Rye.		Oats.	
	Per quarter of 504 lb.	Per bushel of 60 lb.	Per quarter of 336 lb.	Per bushel of 34 lb.
1918.	\$ c.	\$ c.	\$ c.	\$ c.
Before Oct. 1.....	75·6	2·19	47·6	1·17
October and November.....	75·6	2·19	48·0	1·18
December.....	75·6	2·19	49·6	1·22
1919.				
January.....	76·0	2·20	49·6	1·22
February.....	76·0	2·20	50·0	1·23
March.....	76·0	2·20	50·6	1·24
April.....	76·0	2·22	51·0	1·25
May.....	76·6	2·22	51·6	1·27
June and afterwards.....	76·6	2·22	52·0	1·28

The maximum price for barley is fixed at 67s. per quarter of 448 lb. throughout the season (\$1.74 per bushel of 48 lb.). The Order provides for modification of the above prices under conditions specified, and prohibits the sale of wheat, rye, oats and barley, whether imported or home-grown, otherwise than by weight.

THE WEATHER DURING AUGUST.

The Dominion Meteorological Office reports that the temperature was from average to 3° below over British Columbia, and approximately the same amount below in eastern Quebec and the Maritime provinces; elsewhere in the Dominion it was above the average, but only to an appreciable quantity in Ontario, Parry Sound recording a positive departure of 4°, and Toronto 4·6°. The rainfall in British Columbia was well above the average amount. In the western provinces conditions were more varied, as whereas the greater portion of the provinces received an excess rainfall, some few localities experienced very little. At Swift Current and Minnedosa the total fall was deficient by more than half-an-inch, while at Battleford the discrepancy was more than an inch. These conditions obtained very largely in Ontario, some localities, chiefly on account of heavy thunderstorms, recording much more rain than usual; others where the storms were not felt had a deficient rainfall. One of the most

noticeable instances was that of Toronto, with 4.14 inches of rain, or 1.48 inch above the average, while Port Stanley and Kingston had 2.30 inches, which is well below the average quantity for these places. In Quebec and the Maritime provinces the rainfall was everywhere below the average, and as a rule to a marked extent. The chief negative departures were 2.11 inches at Montreal, 2.02 inches at Anticosti, 2.50 inches at Chatham, 2.15 inches at Yarmouth and 1.89 inch at Charlottetown.

PRICES OF AGRICULTURAL PRODUCE, 1918.

I. Weekly Range of Prices per bushel of Canadian Grain at Winnipeg and Fort William, 1918.

(Furnished by the Board of Grain Commissioners for Canada, Fort William, Ont.).

Grain and Grade.	Aug. 3.		Aug. 10.		Aug. 17.		Aug. 24.		Aug. 31.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—										
No. 1 Nor.....	2 21	—	2 21	—	2 21	—	2 21	—	2 24½	—
No. 2 Nor.....	2 18	—	2 18	—	2 18	—	2 18	—	2 21½	—
No. 3 Nor.....	2 15	—	2 15	—	2 15	—	2 15	—	2 17½	—
No. 4.....	2 08	—	2 08	—	2 08	—	2 08	—	2 11½	—
No. 5.....	1 96	—	1 96	—	1 96	—	1 96	—	1 99½	—
No. 6.....	1 87	—	1 87	—	1 87	—	1 87	—	1 90½	—
Feed.....	1 85	—	1 85	—	1 85	—	1 85	—	1 86	—
Oats—										
No. 2 C.W.....	0 86½—0 90½		0 89½—0 91½		0 90—0 92½		0 90½—0 93		0 84½—0 90½	
No. 3 C.W.....	0 85—0 87½		0 86—0 88½		0 86½—0 88		0 88—0 89		0 79½—0 80½	
No. 1 Feed Ex.....	0 84½—0 87½		0 86—0 88½		0 87—0 88½		0 88½—0 89		0 79—0 81	
No. 1 Feed.....	0 82—0 84½		0 83—0 85		0 81½—0 83½		0 82½—0 83		0 77½—0 79	
No. 2 Feed.....	0 79—0 81½		0 80½—0 83		0 81½—0 83½		0 82½—0 83		0 74½—0 75½	
Barley—										
No. 3 C.W.....	1 25	—	1 25	—	1 15—1 20		1 15—1 20		1 05—1 10	
No. 4 C.W.....	1 20	—	1 20	—	1 15	—	1 10—1 15		1 00—1 05	
Rejected.....	1 17	—	1 15	—	1 12	—	—	—	—	—
Feed.....	1 17	—	1 15	—	1 12	—	—	—	—	—
Flax—										
No. 1 N.W.C.....	4 39—4 58		4 14—4 17		4 23—4 31½		4 33—4 46		4 19—4 31½	
No. 2 C.W.....	4 53—4 55		—	—	4 18—4 26½		—	—	—	—

II. Monthly range of Prices per bushel of Grain at Selected Markets in the United States, 1918.

(From the Monthly Crop Report of the U.S. Department of Agriculture).

Grade and Market.	May.		June.		July.		August.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat, Red Winter, No. 2—								
St. Louis.....	2 15	—	2 15	—	2 21—2 35		2 06—2 25	
Chicago.....	2 17	—	2 17	—	2 23—2 30		2 23—2 25	
New York (f.o.b. afloat).....	2 26	—	2 26	—	2 36½—	—	2 38	—
Corn, No. 2, mixed—								
St. Louis.....	1 52—1 53½		1 48—1 64		1 54—1 80		1 57—1 95	
Corn No. 2—								
Chicago.....	1 55—1 60		1 50—1 65		1 60—1 75		1 60—1 80	
Oats No. 2—								
St. Louis.....	0 70—0 82½		0 70—0 78		0 66—0 78½		0 65½—0 77	
Chicago.....	0 72—0 79½		0 71—0 80½		0 72½—0 74½		0 67½—0 72½	
Rye, No. 2—								
Chicago.....	1 30—2 60		1 60—2 50		1 60—1 85		1 55—1 79	

PUBLICATIONS
OF THE
Department of Trade and Commerce

REPORT OF THE DEPUTY MINISTER.

WEEKLY BULLETIN

(Circulated within Canada only),

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SUPPLEMENTS TO WEEKLY BULLETIN:

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The Timber Import Trade of Australia.

EXPORT DIRECTORY OF CANADA.

CANADA AND THE BRITISH WEST INDIES.

CANADA, THE COUNTRY OF THE TWENTIETH CENTURY.

GRAIN INSPECTION IN CANADA.

LIST OF LICENSED ELEVATORS.

RULES AND REGULATIONS OF THE BOARD OF GRAIN
COMMISSIONERS.

REPORT OF THE BOARD OF GRAIN COMMISSIONERS.

MAIL SUBSIDIES AND STEAMSHIP SUBVENTIONS.

For List of Publications of the Dominion Bureau of Statistics, see page iv of cover.

PUBLICATIONS

OF THE

DOMINION BUREAU OF STATISTICS.

ANNUAL REPORT OF THE TRADE OF CANADA.

MONTHLY REPORT OF THE TRADE OF CANADA.

THE CANADA YEAR BOOK, 1916-17, with Map of Canada and Newfoundland, a Statistical Summary of the Progress of Canada and numerous illustrations pp. 1-xvi, 1-720.

Contents: I Natural Resources of the Dominion of Canada, by WATSON GRIFFIN, Department of Trade and Commerce, Ottawa, with 10 illustrations; II Physical Characteristics of Canada, including Geographical Features; Economic Geology in Canada, 1917, by WYATT MALCOLM, Department of Mines, Ottawa; III Area and Population; IV Education; V Climate and Meteorology, with Diagram; VI Production; VII Trade and Commerce; VIII Transportation and Communications; IX Labour; X Finance; XI Administration; XII Legislation and Principal Events of the Years 1916 and 1917; XIII Extracts from the Canada Gazette 1916 and 1917.

THE CANADA YEAR BOOK. Second Series 1905-1915. [1910 and 1913, out of print.]

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. Nos. I to XIX.

REPORT OF THE FIFTH CENSUS OF CANADA, 1911.

Vol. I, 1912. Areas and Population by Provinces, Districts and Subdistricts with Introduction. Tables I to XV, pp. i-viii, 1-623. [Out of print.]

Vol. II, 1913. Religions, Origins, Birthplace, Citizenship, Literacy and Infirmities by Provinces, Districts and Subdistricts, with Introduction. Tables I-XLVI, pp. i-iv, 1-634.

Vol. III, 1913. Manufactures for 1910 as enumerated in June 1911, with Introduction. Tables I-XX, pp. i-xvi, 1-432.

Vol. IV, 1914. Agriculture with Introduction. Tables 1-90; I-XXXV, pp. i-xcv, 1-428. Diagrams, 5 pp. [Out of print.]

Vol. V, 1915. Forest, Fishery, Fur and Mineral Production, with Introduction. Tables 1-51; I-XXVI, pp. i-l, 1-171.

Vol. VI, 1916. Occupations of the People, with Introduction. Tables 1-25; I-VI, i-xxxi, 1-469. [Out of print.]

REPORT OF THE CENSUS OF POPULATION AND AGRICULTURE OF THE PRAIRIE PROVINCES, 1916. January 12, 1918. Tables 1-54; I-XXVI, pp. i-lxiv; 1-356.

SPECIAL REPORT ON THE FOREIGN-BORN POPULATION. Abstracted from the Records of the Fifth Census of Canada. June, 1911. 23 tables. 62 pp. 1915.

REPORT OF THE POSTAL CENSUS OF MANUFACTURES, 1916. pp. i-xi; 1-263, 1917.

REPORT ON THE PRODUCTION OF CREAMERIES AND CHEESE FACTORIES, 1915 and 1916. pp. 1-24, 1917.

CRIMINAL STATISTICS. Annual Report for Year ended September 30, 1915. pp. i-xliv, 1-398.

CENSUS AND STATISTICS MONTHLY, Vols. 1-9, 1908-1916; Vol. 10, Nos. 101-103, 1917. MONTHLY BULLETIN OF AGRICULTURAL STATISTICS, Vols. 10 and 11, Nos. 104-121, 1917-18.

For List of Publications of the Department of Trade and Commerce, see page iii of cover.

Vol. 11

No. 123

CANADA

DOMINION BUREAU OF STATISTICS

Quarterly

MONTHLY BULLETIN

OF

AGRICULTURAL STATISTICS

November, 1918.

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OTTAWA

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Printer to the King's Most Excellent Majesty

1918

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MONTHLY BULLETIN OF AGRICULTURAL STATISTICS

Vol. 11

OTTAWA, NOVEMBER, 1918.

No. 123

DOMINION STATISTICIAN: R. H. COATS, B.A., F.S.S. EDITOR: ERNEST H. GODFREY, F.S.S.
DOMINION BUREAU OF STATISTICS, OTTAWA, CANADA.

FIELD CROPS OF CANADA.

Report for the month ended October 31, 1918.

The Dominion Bureau of Statistics, in a bulletin issued to-day, reports on the area, yield and value of potato, root and fodder crops in Canada for 1918, as compared with 1917, the acreage and condition on October 31 of fall wheat sown for 1919 and the progress of fall ploughing.

POTATO HARVEST OF 1918.

The returns already published showed that the total area planted to field potatoes in Canada this year was 735,192 acres, as compared with 656,958 acres in 1917, both years establishing records. The estimated yield per acre for Canada this year is $143\frac{1}{2}$ bushels, as compared with $121\frac{1}{2}$ bushels last year, and with $150\frac{1}{4}$ bushels, the average for the ten years 1908-17. The total estimated yield of potatoes for 1918 is 105,579,700 bushels, as compared with 79,892,000 bushels last year. The yield for 1918 is the highest on record, the previous record being over 99 million bushels in 1909. By provinces, the highest average yield per acre is in British Columbia, 228 bushels, the other provinces ranging in order as follows: Nova Scotia, 194, Manitoba 185, Prince Edward Island 170, New Brunswick $158\frac{1}{2}$, Quebec 147, Ontario 123, Saskatchewan $116\frac{1}{4}$ and Alberta $70\frac{1}{2}$ bushels per acre. The largest acreage and production of potatoes this year is in Quebec, the total yield being 38,936,000 bushels from 264,871 acres, Ontario being next with 20,443,000 bushels from 166,203 acres. The average value per bushel of the potato crop is 98 cents, as compared with \$1 last year, and the total value is \$103,636,100, as against \$80,804,400 last year.

ROOT AND FODDER CROPS.

The total yield of turnips and other roots is estimated at 120,767,900 bushels from 343,037 acres, an average per acre of 352 bushels, as compared with last year's total of 63,451,000 bushels from 218,233 acres, the average yield per acre being then $290\frac{3}{4}$ bushels. Hay and clover give the record yield of 14,595,500 tons from 10,544,625 acres, an average per acre of $1\frac{1}{2}$ ton. The corresponding figures last year were 13,684,700 tons from 8,225,034 acres, or $1\frac{3}{4}$ ton per acre. The previous record yield of hay and clover was 14,527,000 tons in 1916. The average value per ton of hay and clover is \$17 as against \$10.33 per ton last year. Alfalfa shows a yield of 448,600 tons from 196,428 acres, or $2\frac{1}{4}$ tons per acre, as compared with 262,400 tons from 109,825 acres, or $2\frac{1}{2}$ tons per acre, last year. Of fodder corn the estimated yield is 4,203,150 tons from 502,069 acres, an average per acre of $8\frac{1}{4}$ tons.

The total area under root and fodder crops, including potatoes, turnips, etc., hay and clover, alfalfa and fodder corn, amounts to 12,321,351 acres, as compared with 9,576,568 acres in 1917. In total value at local prices these crops amount for 1918 to \$437,364,425, as compared with \$268,310,300 in 1917.

FALL WHEAT AND FALL PLOUGHING.

The area estimated to be sown to fall wheat for 1919 is 5 p.c. less than that sown last year, the area being 840,000 acres, as against 886,000 acres, the revised estimate for 1918, based upon the returns collected in June last. As compared with the original estimate for 1918, viz., 711,000 acres, the area for 1919 is 129,000 acres, or 18 p.c., more. On October 31 the condition of the fall wheat crop was, for Canada, 102 p.c. of the decennial average. In Ontario, also, the condition is 102, but in Alberta it is 98.

About 56 p.c. of the land intended for next year's crops has been ploughed this fall, this proportion being similar to that of each of the past three years. In the Prairie Provinces the percentages are for Manitoba 54 as against 40 last year, in Saskatchewan 39 against 37 and in Alberta 35 against 38.

Dominion Bureau of Statistics,
Ottawa, November 19, 1918.

ERNEST H. GODFREY,
Editor.

I. Estimated Area, Yield and Value of Potato, Root and Fodder Crops, 1917 and 1918.

Field Crops.	Area.	Yield per Acre.	Total Yield.	Average Price.	Total Value.
	acres.	bush.	bush.	per bush.	\$
Canada—					
Potatoes.....1917	656,958	121.50	79,892,000	1.01	80,804,400
1918	735,192	143.50	105,579,700	0.98	103,636,100
Turnips, etc.....1917	218,233	290.75	63,451,000	0.46	29,253,000
1918	343,037	352.00	120,767,900	0.43	51,633,600
		tons	tons	per ton	
Hay and clover.....1917	8,225,034	1.75	13,684,700	10.33	141,376,700
1918	10,544,625	1.50	14,595,500	17.00	248,042,800
Fodder corn.....1917	366,518	7.25	2,690,370	5.14	13,834,900
1918	502,069	8.25	4,203,150	6.20	26,053,125
Alfalfa.....1917	109,825	2.50	262,400	11.59	3,041,300
1918	196,428	2.25	448,600	17.75	7,998,800
P. E. Island—		bush.	bush.	per bush.	
Potatoes.....1917	35,000	175.00	6,125,000	0.75	4,594,000
1918	31,543	170.00	5,362,300	0.63	3,373,200
Turnips, etc.....1917	8,100	505.50	4,094,000	0.31	1,269,000
1918	8,246	520.50	4,292,000	0.29	1,244,700
		tons	tons	per ton	
Hay and clover.....1917	197,000	1.50	305,400	12.67	3,869,000
1918	222,691	1.50	334,000	14.17	4,732,800
Fodder corn.....1917	250	7.00	1,800	5.00	9,000
1918	420	5.25	2,200	9.00	19,800

**I. Estimated Area, Yield and Value of Potato, Root and Fodder Crops,
1917 and 1918—con.**

Field Crops.	Area.	Yield per Acre.	Total Yield.	Average Price.	Total Value.
Nova Scotia—					
Potatoes.....	acres	bush.	bush.	per bush.	\$
1917	41,000	175.00	7,173,000	0.92	6,599,000
1918	51,250	194.00	9,942,500	0.93	9,147,100
Turnips, etc.....					
1917	9,100	351.00	3,193,000	0.47	1,501,000
1918	23,823	391.25	9,320,700	0.58	5,406,000
Hay and clover.....					
1917	542,000	tons 1.65	tons 894,300	per ton 11.83	10,580,000
1918	605,464	1.30	787,100	20.00	15,742,000
Fodder corn.....					
1917	480	9.25	4,400	6.00	26,400
1918	4,644	7.00	32,500	9.00	292,500
Alfalfa.....					
1917	30	3.50	100	15.00	1,500
New Brunswick—					
Potatoes.....		bush.	bush.	per bush.	
1917	46,000	149.75	6,891,000	1.13	7,787,000
1918	57,272	158.50	9,077,600	1.00	9,077,600
Turnips, etc.....					
1917	7,700	300.50	2,314,000	0.61	1,412,000
1918	18,507	350.00	6,477,500	0.58	3,757,000
Hay and clover.....					
1917	568,000	tons 1.50	tons 909,000	per ton 10.29	9,354,000
1918	740,637	1.50	1,111,000	15.30	16,998,300
Fodder corn.....					
1917	85	9.00	770	6.00	4,600
1918	3,459	4.50	15,600	10.00	156,000
Alfalfa.....					
1918	1,178	1.50	1,800	9.00	16,200
Quebec—					
Potatoes.....		bush.	bush.	per bush.	
1917	226,917	80.00	18,158,000	1.38	25,058,000
1918	264,871	147.00	38,936,000	0.98	38,157,300
Turnips, etc.....					
1917	70,192	224.50	15,759,000	0.59	9,298,000
1918	95,526	295.50	28,227,900	0.53	14,960,800
Hay and clover.....					
1917	2,961,983	tons 1.75	tons 5,065,000	per ton 9.58	48,523,000
1918	4,533,266	1.50	6,799,900	15.75	117,098,400
Fodder corn.....					
1917	69,030	8.50	586,800	5.00	2,934,000
1918	86,358	7.25	626,100	7.42	4,645,700
Alfalfa.....					
1917	3,818	2.25	8,600	8.37	72,000
1918	4,144	2.25	9,300	11.70	109,100
Ontario—					
Potatoes.....		bush.	bush.	per bush.	
1917	142,000	133.75	18,981,000	1.00	18,981,000
1918	166,203	123.00	20,443,000	1.26	25,758,200
Turnips, etc.....					
1917	94,000	341.00	32,047,000	0.35	11,216,000
1918	159,001	396.00	62,964,400	0.32	20,148,600
Hay and clover.....					
1917	2,998,000	tons 1.75	tons 5,097,000	per ton 10.26	52,295,000
1918	3,470,036	1.30	4,511,000	16.50	74,431,500
Fodder corn.....					
1917	265,000	8.50	1,998,000	5.00	9,990,000
1918	380,946	8.85	3,371,400	5.73	19,318,100
Alfalfa.....					
1917	52,000	2.75	142,500	10.08	1,436,000
1918	144,010	2.30	331,200	15.78	5,226,200
Manitoba—					
Potatoes.....	acres	bush.	bush.	per bush.	
1917	34,400	106.00	3,643,000	0.76	2,769,000
1918	45,000	185.00	8,325,000	0.56	4,662,000
Turnips, etc.....					
1917	2,500	185.00	463,000	0.63	292,000
1918	9,910	251.75	2,494,800	0.44	1,097,700

**I. Estimated Area, Yield and Value of Potato, Root and Fodder Crops,
1917 and 1918—con.**

Field Crops.	Area.	Yield per Acre.	Total Yield.	Average Price.	Total Value.
				per ton	\$
Manitoba—con.	acres	tons	tons		
Hay and clover.....1917	75,000	1.00	75,000	\$ 11.11	833,300
1918	74,000	1.00	74,000	16.00	1,184,000
Fodder corn.....1917	9,800	4.75	47,600	7.50	357,000
1918	12,340	5.50	67,900	10.50	713,000
Alfalfa.....1917	4,400	2.00	9,100	13.45	122,400
1918	3,600	2.25	8,100	18.00	145,800
Saskatchewan—		bush.	bush.	per bush.	
Potatoes.....1917	67,700	133.00	9,010,000	0.85	7,659,000
1918	59,793	116.25	6,950,900	0.96	6,672,900
Turnips, etc.....1917	11,104	155.50	1,727,000	0.91	1,572,000
1918	9,760	225.75	2,203,300	0.91	2,005,000
		tons	tons	per ton	
Hay and clover.....1917	260,275	1.50	369,600	10.12	3,740,000
1918	315,117	1.15	362,400	11.92	4,319,800
Fodder corn.....1917	15,658	2.00	31,300	8.00	250,400
1918	11,186	5.65	63,200	10.50	663,600
Alfalfa.....1917	9,500	1.50	15,300	13.40	205,000
1918	6,943	1.40	9,700	17.50	169,800
Alberta—		bush.	bush.	per bush.	
Potatoes.....1917	48,917	151.50	7,409,000	0.76	5,631,000
1918	44,247	70.50	3,119,400	1.11	3,462,500
Turnips, etc.....1917	10,947	207.50	2,272,000	0.74	1,681,000
1918	12,506	188.50	2,357,400	0.66	1,555,900
		tons	tons	per ton	
Hay and clover.....1917	493,522	1.48	730,400	10.92	7,976,000
1918	469,000	0.85	398,700	15.82	6,307,400
Fodder corn.....1917	3,976	1.00	4,000	7.00	28,000
1918	700	5.50	3,850	10.50	40,425
Alfalfa.....1917	31,396	2.00	64,400	10.73	691,000
1918	24,285	2.00	48,600	21.50	1,044,900
British Columbia—		bush.	bush.	per bush.	
Potatoes.....1917	15,024	166.50	2,502,000	0.69	1,726,400
1918	15,013	228.00	3,423,000	0.97	3,320,300
Turnips, etc.....1917	4,590	344.50	1,582,000	0.64	1,012,000
1918	5,758	422.00	2,429,900	0.60	1,457,900
		tons	tons	per ton	
Hay and clover.....1917	129,254	1.75	239,000	17.60	4,206,400
1918	114,414	1.90	217,400	33.25	7,228,600
Fodder corn.....1917	2,239	7.00	15,700	15.00	235,500
1918	2,016	10.10	20,400	10.00	204,000
Alfalfa.....1917	8,681	2.50	22,400	22.92	513,400
1918	12,268	3.25	39,900	32.25	1,286,800

II. Area estimated to be sown to Fall Wheat in 1918, compared with 1917, and Condition on October 31, 1916, 1917 and 1918.

NOTE.—For condition, 100=promise of a yield per acre equal to the average annual yield per acre of the ten years 1908-17.

Provinces.	1917 Area sown.	1918 Area sown.	Increase (+) or Decrease (—).	Condition on October 31,		
				1916.	1917.	1918.
	acres.	acres.	p.c.	p.c.	p.c.	p.c.
Canada.....	885,700	840,000	— 5	83	87	102
Ontario.....	824,100	783,000	— 5	82	87	102
Manitoba.....	5,440	6,100	+11	95	110	71
Alberta.....	48,960	43,700	—11	92	99	98
British Columbia.....	7,200	7,200	—	95	82	98

III. Progress of Fall Ploughing, 1915-1918.

NOTE.—100=Area of land intended for next year's crop.

Provinces.	1915.	1916.	1917.	1918.	Provinces.	1915.	1916.	1917.	1918.
	p.c.	p.c.	p.c.	p.c.		p.c.	p.c.	p.c.	p.c.
Canada.....	53	51	53	56	Ontario.....	57	54	47	64
P. E. Island....	80	83	76	75	Manitoba.....	36	47	40	54
Nova Scotia....	62	50	57	63	Saskatchewan...	27	28	37	39
New Brunswick	73	68	58	68	Alberta.....	34	21	38	35
Quebec.....	76	69	67	62	British Columbia	61	50	51	48

IV. Percentage of Land under Summer Fallow, as compared with previous Years, 1915-1917.

NOTE.—100=Area under summer fallow in the previous year.

Provinces.	1915.	1916.	1917.	1918.	Provinces.	1915.	1916.	1917.	1918.
	p.c.	p.c.	p.c.	p.c.		p.c.	p.c.	p.c.	p.c.
Canada.....	90	92	90	90	Ontario.....	81	80	86	90
P. E. Island....	94	91	98	96	Manitoba.....	77	104	97	96
Nova Scotia....	96	86	89	90	Saskatchewan...	71	103	97	89
New Brunswick	90	82	80	83	Alberta.....	74	90	94	84
Quebec.....	89	84	81	91	British Columbia	91	91	75	81

CROP REPORTS FROM THE PROVINCES.

Prince Edward Island.—Wheat is reported throughout the Island as an excellent crop. Other grains have also done exceptionally well. Many correspondents report that potatoes are an exceptional crop, except where farmers did not spray them; here rot set

in. Others state that potatoes have been very poor, owing to blight and rot. The white variety of potato was especially mentioned as diseased. Turnips suffered somewhat from club root, but otherwise were slightly better than last year. Hay and clover were a very good crop. Straw was damaged by heavy rains, and will not make good feed for stock. Help is very scarce.

Nova Scotia.—Although all grains did well, excessive wind and rain have seriously affected what might have been a bumper crop of wheat and oats. Fall ploughing was retarded on account of unfavourable weather conditions and scarcity of labour. There has been a general complaint of rot in potatoes. Some farmers state that where the potato was sprayed, satisfactory results were obtained and potatoes were very good. The red variety of potato was of a much better quality than the white, which suffered considerably from blight and rot. Other root crops were good and of excellent quality, except mangolds, which were damaged by cutworms. Hay was a light crop, and clover in several districts was reported to have been winter killed.

New Brunswick.—Agriculture in New Brunswick, as in the other eastern provinces, suffered considerable damage from the continuous rains during September, which also delayed harvesting and retarded fall ploughing. Wheat in most instances has been very good. Oats were an extra good crop. Potatoes, where grown on dry soil, were of a good quality, but those on damp ground suffered considerably from blight and rot. The turnip crop was seriously damaged by aphides, and will not yield more than an average crop. One correspondent reports that in some cases the turnip seed has been poor and recommends the "Sutton Centenary" as always satisfactory. Other roots were very good. Hay and clover on high ground were excellent, but on the whole were only average. Fodder corn was poor.

Quebec.—Great difficulty has been experienced this month in the harvesting of field crops, and fall ploughing has been greatly delayed. The grain crop was very satisfactory, but a considerable quantity was lost, owing to the excessive and frequent rains of September and October. Potatoes dug up early are abundant, and of excellent quality. Those planted on low lands are rotting in the ground. Cereals, in general, are good, excepting buckwheat and beans. Between bad weather, the epidemic of influenza and shortage of labour, the farmers have had a great deal to contend with, and all crops have suffered more or less in consequence. It has been almost impossible to work the stubble fields; they are so rain soaked.

Ontario.—Reports show that good progress has been made with fall work, notwithstanding the varying weather conditions. In northern, eastern and central Ontario rain has greatly interfered with the harvesting of corn and root crops, but during the last couple of weeks, farmers have been able to take up their crops under favourable weather conditions. Potatoes are yielding about average, and although there have been complaints of rot having set in from

the damp weather, the quality on the whole has been very satisfactory, and producers are finding a good market, especially in the east. Turnips and other roots have done exceptionally well. Sugar beets, which, until late years, have not been grown extensively, have given great satisfaction. Hay and clover were slightly below average, having suffered from heavy rains. Alfalfa was a splendid crop. Fall wheat is in excellent condition, but many farmers are planning a larger acreage of spring wheat, owing to the success of last year. The corn crop has been the best in many years, and the harvest has been greater than expectations. The wet weather increased the growth of the stalk, and the ears continued developing to a most satisfactory degree. Silos are being filled to overflowing. Fodder supplies are sufficient for the winter, and are being helped out by the excellent late pastures.

On December 2nd the Ontario Department of Agriculture reported that fall wheat, even that sown comparatively late, had made plenty of top for entering the winter, and was also of good colour. Considerable grain was being marketed, but those owning hay were inclined to hold on to it, with prices ranging from \$18 to \$28 a ton. At an auction sale in the Port Arthur district, \$27 a ton was paid for mixed clover and timothy in the mow. Live stock have gone into winter quarters in fair condition. The open weather of the great part of November permitted most of the needed fall ploughing to be done.

Manitoba.—The extremely dry weather of the past summer affected the hay, alfalfa and root crops. Potatoes were an exceptionally good crop. Other roots are grown, but only for home use. Many farmers are buying their supplies from the outside. Hay and alfalfa were badly affected by drought. Green feed was plentiful, and will make up for the deficit in hay. The acreage sown to fall wheat is becoming less each year, as farmers have obtained better results by sowing in the spring. Fall ploughing is now well under way.

Saskatchewan.—Reports from Saskatchewan state that the weather has been so extremely dry that almost all crops have suffered. Potatoes and other roots suffered severely during the early summer from drought and from frost in August. In some sections, potatoes, although small, are good, but generally farmers are importing potatoes. Hay and clover were very poor. Feed for live stock is scarce and farmers will have to buy. Very little fall ploughing has been done on account of dryness of soil. Double disking the stubble land has been found very satisfactory.

Alberta.—Throughout the whole province crops have suffered from drought, which with the frosts in July greatly retarded the growth of all root crops. Potatoes vary. In southern Alberta potatoes grown on summer fallow yielded well. In some sections potatoes were excellent, while in others they were reported as being of good quality, but small in size, and yielding scarcely enough for home consumption. The general complaint is that potatoes are

very poor. Turnips were fairly good. Tame hay was very poor, but wild hay was reported to be a fair crop. Feed for stock is being imported in many instances. Very little fall ploughing has been done owing to the dryness of the soil.

British Columbia.—Although the early part of the season was marked by drought and the harvesting period by continuous rains, the moisture did a great deal to improve the pastures, the second growth of hay and the potato and other root crops. Many farmers reported mild, favourable weather during the last few weeks, which enabled good progress to be made with fall ploughing. On one farm, ripe tomatoes were picked in the open on October 18th. More fall wheat has been sown this year than for several years. Potatoes and other roots did exceptionally well on irrigated lands. In some instances potatoes suffered from scab, but on the whole were a successful crop. There was a heavy demand for potatoes from the evaporators. Mangolds were very good. Hay and clover were a light yield, but of good quality. Fodder corn was a much better crop than last year. The shortage of labour and the high cost of what is available is being keenly felt.

DOMINION EXPERIMENTAL FARMS AND STATIONS.

Central Farm, Ottawa.—Although the temperatures recorded range a little higher and the sunshine totals a little more, the weather during October has been very similar to that of the corresponding period of 1917. The highest temperature recorded during the month is 68, the lowest 27 and the mean 47·13, compared with a maximum of 61·6, a minimum of 24·9 and a mean of 42·4 during the previous October. Rain has fallen on fifteen different days, the precipitation totalling 5·17 inches, precisely the same amount as a year ago, when it was distributed over eighteen days, while the average rainfall for October from 1892 to 1917, covering a period of twenty-six years, is only 2·44 inches. The bright sunshine recorded averages 4·32 hours a day compared with 2·95 hours a day in October 1917.

In the latter part of October, most of the root crop at the Central Farm has been harvested, an area of upwards of five acres of mangolds yielding some 29 tons per acre, which is considerably above the average. A good deal of time has also been devoted to getting in the mangold stecklings, of which the Division of Forage Plants has grown about twenty acres, as well as some ten acres of turnips also for seed purposes. At the Central Farm a good deal of the fall ploughing has been done.

Charlottetown, P.E.I.—R. D. L. Bligh, Officer in Charge, reports: "The weather during October has been very unsettled and unfavourable for the harvesting of crops. Rain fell on seventeen days, amounting to 5·51 inches, 3·14 inches of which came on the 5th, 6th and 7th. The hours of sunshine total 108·1, as compared with 136·9 in 1917. No sunshine was recorded on ten different days during the month. In spite of the unfavourable weather, the farmers

have succeeded in saving most of their crops. The month closed with the greater part of the potato crop harvested, while in some districts the gathering of roots has been started. The potato crop has been about an average one, with considerable rot occurring on the heavier soils. The turnip crop is also an average one, with the roots very smooth and uniform, with less club root than usual. Mangolds are somewhat below the average at this Station. The heaviest frost of the month occurred on the 20th, and did considerable damage throughout the province. The dull weather has enabled the farmers to make good progress with their fall ploughing."

Kentville, N. S.—W. S. Blair, Superintendent, reports:—"October has been dark, many light rains keeping the land wet and hampering very greatly the gathering in of crops. The previous month being exceptionally wet, left the land in a water soaked state, and the October rains following have not allowed the ground to dry out much. The heaviest rain was on the 6th, when 2.16 inches fell. The temperature during the month has been normal. Frost has been recorded on eight nights only, the heaviest being four degrees on the 19th, 20th and 24th. The last week in the month has been exceptionally mild, the temperature going to 70, 74, 68 and 72 degrees on the 28th, 29th, 30th and 31st, respectively. As there were no very heavy frosts, farmers have been able to gather their potatoes without frost damage. This crop has turned out very well except that there has been considerable loss from rot. The turnip seed stecklings grown at this Station have been gathered and are of good quality. Turnips and mangolds have done exceptionally well. The apple crop, which has been gathered for the most part, will total about one-half a million barrels. There is a great scarcity of barrel stock, which has delayed considerably the gathering of this crop. The quality of the fruit generally is good."

Nappan, N.S.—W. W. Baird, Superintendent, reports:—"The weather of October has been rather unsettled; rain has been recorded on eleven different days, giving a total precipitation of 5.21 inches, most of which fell during the first and last weeks of the month, the intervening period being considerably finer. Owing to the dikes being washed out by recent heavy tides, a great deal of the time during the first part of the month was spent in repairing these dykes, about 300 feet being built in sufficient time to withstand the heavy tide on the 21st. During the first part of the month the plot grain was hauled in and threshed. Much attention has had to be devoted to the harvesting of fruit, for which a ready market has been found. Help has been scarce, being especially so during October, owing to the prevailing influenza, and considerable difficulty has been experienced in the harvesting of crops. Work that has engaged attention during the month, other than caring for live stock and poultry, has included hauling wood, cleaning seed turnips, attending exhibitions, ploughing, hauling manure and digging potatoes. All live stock at this Station is in good condition and doing nicely."

Fredericton, N.B.—W. W. Hubbard, Superintendent, reports:—"The weather during October, on the whole, has been favourable for farm operations; but the first week was both cold and wet, which interfered with the harvesting of late grain and potatoes. The mean temperature is nearly four degrees higher than last year and five degrees higher than the 44 year average. The precipitation is 0.6 of an inch above the average. There have been nine nights on which frost was recorded, the lowest temperature being 22 on the 19th, which could only have lasted for a very short time, as the ground was not stiffened nor were blooms in the garden hurt. On account of scarcity of help, farm work is not very well advanced, roots in many cases still remaining in the ground at the end of the month. Turnips are showing the effects of the attacks of aphis, as, while the tops have started again, and in some cases are quite luxuriant, the roots are small and only from a third to half a crop will generally be taken up. Fall ploughing is backward. Live stock is still in the fields and grass is still growing, but stock is thin where extra feed is not given. There is a noticeable increase in flocks of sheep."

Ste. Anne de la Pocatière, Que.—Jos. Begin, Superintendent, reports:—"The weather during October has been exceptionally dry compared with that of previous months. The highest temperature recorded is 66.4, the lowest 31.4 and the mean 43.1, compared with 70.2 and 30.4 and a mean temperature of 41.3 a year ago. The rainfall, distributed over six days, totals only 0.6 of an inch, while in the corresponding period of 1917 there was rain on twelve days, amounting to 5.56 inches. The bright sunshine averages 4 hours a day. The weather during September had been so wet that a large proportion of the grain crop remained to be cut this month. Farmers in the district have taken advantage of the fine weather of October to harvest late grain; much of it has been threshed, giving only eighty per cent of an average crop, and not coming up to the standard weight, especially in the case of oats. Potatoes, which constitute an important crop in this district, have given a good average yield of sound tubers, the amount of dry rot being much less than feared. Turnips and mangolds have turned out better than the earlier estimates, though mangolds are yielding about fifteen per cent below the average. At this Station, all field roots were in by the 26th, and upwards of fifty tons of turnip stecklings have been harvested in very good condition, leaving about as much to be harvested in November."

Cap Rouge, Que.—G. A. Langelier, Superintendent, reports:—"October has been colder, drier and brighter than the average of six years for the corresponding month, the figures being respectively 43.83 and 44.99 for the mean temperature, 3.53 and 4.56 inches for the precipitation, and 115.9 and 91.7 hours for the sunshine. At the Station, a good deal of ploughing has been done, and all potatoes, also roots, except the swede stecklings grown for seed purposes, have been lifted. Nearly five hundred dollars' worth of pure-bred Lei-

cesters were sold; so that sheep certainly have been profitable this year. Influenza has been very prevalent in the district, and eighteen out of thirty-two men working at the Station were laid up with it at the same time. Young boys had to be employed to save the crops, but help without experience is not satisfactory on the farm any more than in the factory."

Lennoxville, Que.—J. A. McClary, Superintendent, reports:—"October has been very wet, rain being recorded on seventeen days and amounting to 6.19 inches, compared with 5.43 inches last year and 2.59 inches two years ago. The highest temperature recorded is 71 compared with 67 last year, and the lowest 20 as against a minimum of 23 last year. The mean temperature is 45.54, while for the corresponding month last year it was 42.19. The hours of sunshine total 107.4, compared with 81.1 hours last year. With the excessive amount of rain and the shortage of labour, there has not been so much ploughing done this fall as is usual at this time of the year. Farmers in this locality have marketed most of their lambs through the Canadian Co-operative Wool Growers and Sheep Breeders' Association."

Brandon, Man.—W. C. McKillican, Superintendent, reports:—"October has been a month of fine weather, which greatly facilitated threshing, ploughing and other farm operations. The mean temperature is 42.3, or nearly eleven degrees higher than that of the corresponding period of 1917; while the sunshine averages about an hour a day more. In the Brandon district, threshing has been completed and ploughing is under way. On the Experimental Farm, the harvesting of field root crops has been finished and all fall ploughing completed."

Indian Head, Sask.—W. H. Gibson, Superintendent, reports:—"October has been moderately warm and clear, with showers on the 6th, 7th and 18th, and light flurries of snow on the 23rd and 30th. With such favourable weather, practically all fall work on the land has been completed, and farmers are beginning to deliver wheat to the elevators. Threshing was completed in this district by about the 15th. The work on the Experimental Farm has included ploughing stubble, putting fallows in shape for spring, fencing, clearing out brush from shelter-belts, ploughing and digging gardens and caring for the live stock and poultry."

Rosthern, Sask.—Wm. A. Munro, Superintendent, reports:—"There were five showers during October, but not at any one time was there enough rain to stop threshing operations throughout the district. The fact that there has been very little precipitation all summer and practically none for the past three months, leaves the ground in the driest condition in the records of the Station. Ploughing has been going on, but with doubtful effects, and under great difficulties, because the plough cannot be held in the ground at all except deeper than is usual in fall operations. The sheep and cattle have been turned on the stubble since harvest and are doing splendidly. The brood sows were on grass all summer, with

access to plenty of water, and thrived well with little expense. During the last week of October, forty-six steers were purchased on the Winnipeg market for feeding purposes for the winter. These are two and a half years old and constitute a very even bunch."

Scott, Sask.—M. J. Tinline, Acting Superintendent, reports:—"Fine weather has prevailed during October. The precipitation totals 0.32 of an inch, which is about the average. The precipitation for the seven months ended October 31st amounts to only 4.58 inches; and a large part of this moisture evaporated shortly after falling. Threshing was completed early in the month, but, owing to the frost and drought, there is very little wheat to market, while the supply of oats and barley is insufficient for feed and seed. Potatoes are being shipped in from outside points. Live stock is thriving well where the animals have the run of the grass and stubble lands."

Lacombe, Alberta.—G. H. Hutton, Superintendent, reports:—"The weather during October proved favourable for all fall work on the farms. Threshing of cereals has been practically completed during the month. The yield is less than was anticipated for this section of the country, but the quality is satisfactory. Grain is moving to market rapidly for central Alberta, the price for coarse grains being fair. During the month, there has been a decline in pork prices, which has caused disappointment to those who have fed their hogs on high-priced grain. Market congestion of all classes of live-stock is responsible in part for this decline. Unfinished cattle, particularly, have been going to market in large numbers because of the shortage of feed, and abattoirs and other slaughter houses have been unable to cope with the unprecedented offering."

Lethbridge, Alberta.—W. H. Fairfield, Superintendent, reports:—"The weather during October has been mild and dry. Only 0.24 of an inch of rain has been recorded. There have been particularly heavy west winds on a few days, in some cases causing soil to drift on summer-fallowed land in the district. On account of it being so dry, there has not been so much fall ploughing done as is usual in southern Alberta. At the Station, the fall work has been pretty well cleaned up. Some 230,000 mangold stecklings have been harvested and stored preparatory for the root seed growing work to be carried on during the coming season."

Invermere, B.C.—G. E. Parham, Superintendent, reports:—"Weather conditions during October have been ideal; the mean temperature for the month is three degrees higher than in 1917, and the absence of any hard frost in the district has made it possible to continue fall ploughing and other farm work without a break. Some excellent crops of potatoes of good quality are reported by local farmers, but yields of all cereals and of hay have been light. The local demand for hay is greater than the supply, and \$40 to \$45 per ton is already being demanded. At the Experimental Station, the yield from the potato plots has been exceptionally heavy, both the quality and the proportion of marketable over unmarketable tubers being above the average. Harvesting and

storing of field roots was completed by the 26th, part of the crop being pitted in the open for experimental purposes. A third cutting of alfalfa was taken from a portion of a three-acre field, with a view to observing the comparative effect on the plant under the coming winter conditions. The usual horticultural work for the month has been completed under favourable conditions. In the apiary, the average yield of extracted honey per colony works out at 118.9 lb. for the season, the greatest return from one colony being 192 lb. The hives are now being prepared for winter, and experiments in various methods of wintering will be continued as in former years."

Summerland, B.C.—R. H. Helmer, Superintendent, reports:—"October has been a good fall month, without frost being recorded; and the harvesting of apples and roots has been done under favourable conditions. In the Valley, crops, as a whole, have turned out better than was at first feared. Fruit is of large size and good quality, and the trees have made better growth this year than previously, while trees that have had a rest from fruiting have improved in general appearance. Thinning has again been shown to be necessary to prevent the off-year habit of so many of the orchards. Potato crops have been good; also mangolds and carrots."

Agassiz, B.C.—W. H. Hicks, in charge, reports:—"The month of October has been exceedingly wet, the precipitation, 14.85 inches, being a record for the last twenty years, the average October rainfall during that period being only 5.35 inches. The extreme amount of rain, coupled with the great shortage of labour and the ravages of the influenza epidemic, has materially interfered with the harvesting of the root crops, particularly potatoes, many acres of which are yet in the ground."

Sidney, Vancouver Island, B.C.—Lionel Stevenson, Superintendent, reports:—"Weather conditions during October have been favourable to general farm and orchard work. Heavy rains have been experienced during the closing days of the month. The corn crop was silaged in good condition and a beginning made with root and potato harvest. Apples and pears have yielded well; the quality of the fruit has been good, while the demand for store trade, shipment or cannery grades has been very limited. The area seeded to autumn cereals was not so great as in October, 1917. Grazing has improved somewhat with the autumn rains. Live stock are in good condition. Poultry and products of the same are scarce, and prices are much higher than the average for this time during the past three years. More seed corn has been saved in the district than ever before."

Meteorological Record for October, 1918.

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of October are given in the following table:—

Experimental Farm or Station at—	Degrees of Temperature F.			Precipitation in inches.	Hours of Sunshine.	
	High-est.	Low-est.	Mean.		Pos-sible.	Actual.
Ottawa, Ont.....	68.0	27.0	47.13	5.17	339	134.1
Charlottetown, P.E.I.....	65.0	28.0	47.6	5.51	339	108.1
Kentville, N.S.....	74.0	28.0	48.6	4.36	339	115.5
Nappan, N.S.....	67.0	23.0	46.84	5.21	339	105.6
Fredericton, N.B.....	67.0	22.0	47.9	3.36	333	141.7
Ste. Anne de la Pocatière, Que.....	66.5	31.4	43.1	0.60	336	122.2
Cap Rouge, Que.....	61.0	26.2	43.83	3.53	339	115.9
Lennoxville, Que.....	71.0	20.0	45.54	6.19	339	107.4
Brandon, Man.....	70.2	20.0	42.3	1.01	333	140.4
Indian Head, Sask.....	73.0	15.0	41.68	0.62	331	117.2
Rosthern, Sask.....	68.8	5.3	40.16	0.34	334	150.7
Scott, Sask.....	70.6	8.2	40.04	0.32	335	113.7
Lacombe, Alta.....	75.8	9.7	42.9	0.02	328	157.2
Lethbridge, Alta.....	78.0	16.0	46.16	0.24	331	169.0
Invermere, B.C.....	65.0	22.0	43.2	1.12	332	125.0
Summerland, B.C.....	68.0	34.0	51.01	0.94	333	111.2
Agassiz, B.C.....	66.0	39.0	51.09	14.85	334	76.6
Sidney, Vancouver I., B.C.....	64.0	39.0	49.96	2.73	335	103.8

Ottawa, November 16th, 1918.

J. H. GRISDALE,
Director, Experimental Farms.

TOBACCO CROP OF 1918.

In Ontario there has been in 1918 a large increase in the areas devoted to the growing of the White Burley. The yield of the tobacco, which early in the season did not promise very much, was greatly improved by the late rains which occurred a few days before harvest time. The flue or bright tobacco crop of 1918 is the largest which has been produced in Canada so far. The yield was fair, and after the curing the colour turned out much better than had been anticipated. While the flue tobaccos did not seem to yellow up readily in the field they cured very nicely in the kiln; so that the proportion of real bright tobacco this year is larger than usual.

In Quebec the growing season seemed to be very favourable in May. The growth of the seedlings was rapid, and there was a large proportion of early planting, the acreage in general being larger than in 1917. However, June was very much cooler than usual and very windy, which caused a great proportion of the plants to suffer and die and entailed a great deal of resetting. Furthermore, the growth in the field was checked by the unfavourable weather conditions, so that most of the crops were much later than usual, judging by their condition in the middle of the growing season. The growth, however, was very rapid during August, and most of the tobaccos,

except the very late planting, practically reached their normal development. Harvesting was comparatively early, and many crops were housed before the end of August. But September was very cool and wet, which interfered with the harvesting and ripening of the late crops; so that a certain percentage of tobacco was injured by frost. In some instances the harvesting of the Quebec tobacco had to be delayed till the last day of September. The damage caused by frost injury in the field can be placed at about 10 p.c. of the total production for Quebec in 1918. The weather during the curing process was rather good. As a rule the tobaccos, when harvested in good condition, cured much faster this year than usual.

The following is an estimate of the acreage and yield of tobacco in Ontario and Quebec for the season of 1918, as compared with 1916 and 1917:—

Provinces.	1916.	1917.	1918.	1916.	1917.	1918.	1916.	1917.	1918.
	acres.	acres.	acres.	lb.	lb.	lb.	lb. per acre.	lb. per acre.	lb. per acre.
Quebec.....	2,933	5,000	6,903	3,000,000	5,000,000	7,732,000	1,023	1,000	1,120
Ontario.....	2,958	2,930	6,500	2,943,000	3,495,000	6,500,000	1,000	1,192	1,000
Total and averages..	5,891	7,930	13,403	5,943,000	8,495,000	14,232,000	1,000	1,071	1,062

PRODUCTION OF SUGAR BEETS AND BEETROOT SUGAR.

The production of sugar beets grown for the manufacture of beetroot sugar in Ontario this year is estimated at 18,000 acres. The average yield per acre being 10 tons, the total production is estimated at 180,000 tons. The value of this production at the average price of \$10.25 per ton is \$1,845,000.

The production of refined beetroot sugar in Canada for each of the last seven years is as follows:—

Year.	lb.	Year.	lb.
1911.....	21,329,689	1915.....	39,515,802
1912.....	26,767,287	1916.....	17,024,377
1913.....	26,149,216	1917.....	23,376,850
1914.....	31,314,763		

At the present time there are three sugar beet factories in Canada, all of them in Ontario. Up to the year 1914 there was also a sugar beet factory in Alberta.

FIELD CROPS OF ENGLAND AND WALES, 1918.

The preliminary estimate of the production of field crops in England and Wales, as issued by the English Board of Agriculture on November 11, 1918, shows that the yield per acre of all the grain crops in England and Wales this year is above the average, and with the

single exception of the small area of beans, the total production is also greater; while all are better, whether judged by the yield per acre or by total production, than in 1917. The yield of wheat is estimated at 33 bushels per acre (2 bushels above the average), and the total production, upon the greatly increased acreage amounts to 84,272,000 bushels, which is the largest quantity harvested since estimates were first officially collected in 1885, and exceeds last year's total by over $26\frac{1}{2}$ million bushels. Special reports indicate that a certain proportion of the wheat has been damaged, especially in the northern districts and in Wales, but the condition of the bulk is satisfactory. Barley has yielded 32.40 bushels per acre, or half a bushel more than the average; the total production of over 48 million bushels is the largest since 1914. The production of oats is almost 16 million bushels more than the previous highest on record (1907), and amounts to 114,688,000 bushels; the yield of $41\frac{1}{4}$ bushels per acre is the best since 1910. Mixed or dredge grain, distinguished for the first time, produced an additional 4,960,000 bushels from 139,000 acres. The damage to barley and oats has been considerably more serious and widespread than in the case of wheat. Beans have given 29.40 bushels to the acre, while peas, with $27\frac{1}{2}$ bushels, show the best return of the last ten years. Taking all the five grain crops together the gross production in England and Wales was no less than 68 million bushels, or quite 35 p.c., more than 1917.

The yield of seeds' hay (clover, sainfoin and grasses under rotation) is practically equal to the average, viz., just 29 cwt. per acre; but that from the permanent grass (21.80 cwt.) is $\frac{4}{5}$ of a cwt. below the average. Owing to the increased production of grain, the total amount, viz., almost 2,100,000 long tons of seeds and nearly 4,700,000 long tons of meadow hay, is less than that taken last year, in spite of the better yield per acre. The total production of hay of both kinds amounts to 6,785,000 long tons, or fully three-fourths of a million tons short of last year's total, and nearly 1,100,000 tons less than the average from the much larger area of the ten years 1908-17.

CROP CONDITIONS IN ENGLAND AND WALES.

The Board of Agriculture reported (November 1) that during October the remainder of the grain crops were practically all secured, with a few exceptions in hilly districts, throughout the country. The late grain, especially barley and oats, suffered a good deal from the prolonged wet weather; much of it had sprouted, and generally the condition of such grain is only moderate. Most of the wheat had been got in earlier in satisfactory condition. Potato lifting had been a good deal delayed by the wet weather and the late grain harvest, but good progress was being made towards the end of the month. There appears to be rather more disease in the south than was anticipated, but elsewhere such reports are few, and the quality generally is satisfactory. Very variable progress has been made with mangold-pulling; in some areas half this work has been done,

in others it is only just commencing. Very few turnips and swedes have yet been lifted. The quality of the roots is reported to be good generally. Autumn cultivation was much hindered during the first part of the month, but the more satisfactory conditions of the last week or two allowed of more progress being made. The sowing of wheat and other winter crops was generally well in hand by the end of the month, and in a few districts almost completed; but in many parts this work is backward. In some counties the plant is beginning to show above ground, and in such cases looks quite well. Seeds are variable; on the whole they may be regarded as satisfactory, but there are many poor or patchy fields in most districts. In the west and north some damage has been done by the stooks standing too long in the field. The weather has not favoured live stock, which have only done fairly well; and the grass in the pastures, although generally plentiful, is of poor quality. Prospects for winter keep are, on the whole, only fair, though there will probably be ample straw. The supply of labour is generally deficient, but farmers have been able to cope with the necessary work.

Yield of Hay in Ireland.—The Irish Department of Agriculture reported (October 31) that the yield of permanent meadow hay for 1918 in Ireland was 3,026,741 long tons from 1,502,980 acres, as compared with 3,030,114 tons from 1,540,471 acres in 1917, the yield per acre being 2 tons in both 1918 and 1917, as compared with 2·1 tons, the decennial average from 1908-1917. The yield in 1918 of first, second and third years' hay was 1,701,442 tons from 967,437 acres.

INTERNATIONAL INSTITUTE OF AGRICULTURE.

The October issue of the Bulletin of Agricultural and Commercial Statistics gives the latest returns of this year's production of wheat, rye, barley, oats, and potatoes in countries of the northern hemisphere. The following table shows the total production for the two years 1917 and 1918 according to the data available:

Crop.	No. of countries.	1917.	1918.	P.C. of 1917.	P.C. of 1912-1916.
		bushels.	bushels.	p.c.	p.c.
Wheat.....	12	1,681,151,000	2,002,425,000	119·1	108·1
Rye.....	6	94,582,000	119,282,000	126·1	150·0
Barley.....	11	519,889,000	536,774,000	103·2	106·7
Oats.....	7	2,119,068,000	2,116,308,000	99·9	115·8
Corn.....	4	3,196,852,000	2,706,909,000	84·7	96·6
Flax.....	4	35,855,000	43,247,000	120·6	83·6
Potatoes.....	4	1,085,824,000	957,058,000	88·1	95·4

For wheat the 12 countries included are Spain, England and Wales, Scotland, Italy, Luxemburg, Switzerland, Canada, United States, British India, Japan, Egypt and Tunis. For potatoes the four countries are France, Luxemburg, Canada and the United States. The yields per acre for all the countries included are for wheat 14.42 bushels, compared with 13.98 bushels in 1917, for rye 15.77 bushels compared with 14.66 bushels, for barley 24.54 bushels compared with 24.16 bushels, for oats 32.54 bushels compared with 33.59 bushels, and for potatoes 105.87 bushels compared with 117.92 bushels. The area under potatoes for the four countries is 1.8 p.c. below that of 1917 and 9.1 p.c. above the average of the five years 1912-16. The total yield for the same countries is 11.9 p.c. below 1917 and 4.6 p.c. below average.

INTERNATIONAL MOVEMENT OF ARTIFICIAL FERTILIZERS.

A report of the International Institute of Agriculture on "The International Movement of Fertilizers and Chemical Products useful to Agriculture" was published in a single annual number, dated May, 1918, this replacing the two numbers that were formerly issued in March and September. The tables in the issue of May, 1918, give figures for the years 1913 to 1917, but the data for 1917 are even less complete than for former years, no information being available for several countries since 1914. The year 1916 is, therefore, the latest for which there is any basis of comparison. The tables here given show the imports and exports of those countries which have the largest trade in the more important agricultural chemicals.

In the case of natural phosphates the change in the direction of movement is even more noticeable than the decreased production. The production of the United States in 1916 is about two-thirds of that in 1913, but the exports in 1916 are less than one-tenth of the exports in 1913. Both the production and the exports of Tunis and Algeria have fallen off to a much smaller extent, and Tunis was in 1916 and 1917 the chief source of phosphate for the United Kingdom, France and Italy. The prices of Tunisian phosphates are not given, but American phosphates have risen in price very much less than the other materials mentioned in the report.

Of these salts, the international trade in potash salts has, of course, almost ceased, since Germany produced nearly the whole of the world's supply. The report gives some particulars of the means which have been adopted to make good the deficiency. The United Kingdom before the war imported salts equivalent to about 25,400 tons¹ of potash, and it is expected that not more than 16,500 tons will have been obtained from furnace dust during 1917-18. France had an estimated requirement for 1917-18 of about 99,200 tons, with a production of not more than 5,500 tons and a possible im-

¹ For the purposes of this article the quantities are expressed in short tons of 2,000 lb., converted from metric tons as given in the Institute's report.

portation from Tunis of 11,000 tons. In the United States there was a production, from various sources—minerals, seaweed, molasses, etc.,—of 9,700 tons in 1916, and of 14,000 tons in the first six months of 1917.

The production and exportation of Chilean nitrate of soda have increased during the war, but the United States have increased their importation very greatly and have taken the place of Germany as the largest importer of this substance; in fact, the United States took in 1917 more than half the total quantity exported from Chile. The price has more than doubled since 1914.

Sulphate of ammonia shows a somewhat increased production in most countries, but the international trade has fallen off very considerably. While the price is now more than twice what it was before the war, most of the increase has taken place since the beginning of 1917.

Official figures of the output of cyanamide and other artificial nitrogenous fertilizers are not given, as these substances are largely used in the manufacture of munitions of war. It appears from unofficial figures that the production was 173,000 tons in 1913 and 955,000 tons in 1917, while the capacity of works completed, or under construction in 1917, was 1,456,000 tons. Of this quantity, 661,000 tons were in Germany, 291,000 in France and 220,000 in Norway and Sweden. The United States and Canada, together, are stated to have a capacity of only 64,000 tons.

I. Production and Trade in Natural Phosphates, Basic Slag, Sulphate of Ammonia and Sulphur, 1913-16. (Ton=2,000 lb.)

Country.	Production.		Imports.		Exports.	
	1913.	1916.	1913.	1916.	1913.	1916.
	tons	tons	tons	tons	tons	tons
United States.....	3,484,465	2,220,270	-	-	3,061,000	273,100
Tunis.....	2,518,200	1,868,400	-	-	2,188,000	1,140,600
Algeria.....	508,200	419,110	-	-	483,500	419,110
Islands in the Indian and Pacific Oceans.....	357,658	138,718 (1915)	-	-	-	-
Belgium.....	241,869	-	269,810	-	20,016	-
France.....	358,251	27,600	1,037,044	315,157	23,305	1,584
Egypt.....	115,136	137,800	-	-	70,750	22,626
United Kingdom.....	-	-	603,698	373,376	13,016	2,665
Germany.....	-	-	1,023,824	-	7,589	-
Italy.....	-	-	583,978	479,189	4,598	-

BASIC SLAG.

Germany.....	2,480,200	2,303,829	486,195	-	786,915	-
France.....	804,687	-	37,203 ¹	913	261,780	4,460
Belgium.....	722,013	-	159,322	-	756,083	-
United Kingdom.....	445,323	560,000	56,432	-	184,912	43,262
Russia.....	-	-	205,489	-	-	-
Holland.....	-	-	482,937	-	218,097	-
Italy.....	-	-	131,458	-	114	-

¹ 1914.

I. Production and Trade in Natural Phosphates, Basic Slag, Sulphate of Ammonia and Sulphur, 1913-16.—Con. (Ton=2,000 lb.)

SULPHATE OF AMMONIA.

Country.	Production.		Imports.		Exports.	
	1913.	1916.	1913.	1916.	1913.	1916.
	tons	tons	tons	tons	tons	tons
Germany.....	605,169	661,386	38,170	—	83,629	—
United Kingdom.....	483,829	490,560	—	—	361,820	290,429
United States.....	195,000	325,003	65,274	14,517	—	506
France.....	82,122	27,558	25,347	22,916	1,269	1,598
Belgium.....	53,572	—	19,580	—	18,038	—
Japan.....	8,800	42,112	122,930	7,897	—	—

SULPHUR.

Italy.....	425,834	296,924	202	788	387,285	359,823
United States.....	348,954	—	16,381	24,091	99,955	144,322
Japan.....	54,157	102,159	—	—	59,807	91,147
France.....	—	—	205,409	128,856	25,709	19,117
Sweden.....	—	—	43,178	29,633	263	—
Canada.....	—	—	30,433	73,467	—	—
United Kingdom.....	—	—	20,399	41,092	806	9,549
Germany.....	—	—	51,519	—	3,827	—

II. Imports and Exports of Potash Salts and Nitrate of Soda, 1913 and 1916.

POTASH SALTS (all, including Saltpetre).

Country.	Imports.		Exports.	
	1913.	1916.	1913.	1916.
	tons	tons	tons	tons
United States.....	1,056,647	10,042	3,984	258
Holland.....	362,687	—	64,423	—
Austria-Hungary.....	127,092	—	5,028	—
Germany.....	547	—	2,511,000	—
Russia.....	88,937	95	—	—
Sweden.....	91,169	115,588 ¹	22	—
France.....	71,749	3,946	3,518	288
United Kingdom.....	13,321	24,598	1,899	7,509

NITRATE OF SODA.

Germany.....	853,517	—	30,321	—
United States.....	700,965	1,364,633	6,227	59,979
France.....	355,071	596,020	5,807	12,923
Belgium.....	335,252	—	154,314	—
Holland.....	224,414	67,105	133,484	1
United Kingdom.....	157,827	23,403	—	—
Chile.....	—	—	2,938,761	3,297,877

¹ Incomplete data.

III. Prices of Artificial Fertilizers at United Kingdom Ports and at New York, 1914-1918. (Per cwt. of 100 lb.)

UNITED KINGDOM PORTS.

Fertilizer.	Jan., 1914.	Jan., 1915.	Jan., 1917.	Jan., 1918.	Mar., 1918.
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Muriate of Potash.....	—	4 13	12 22	13 04	13 04
Nitrate of Soda.....	2 26	2 22	4 40	5 49	5 87
Sulphate of Ammonia.....	2 69	2 82	4 02	1	1
Sulphur, rough.....	—	1 41	2 55	2 72	2 72
Sulphate of Copper.....	—	5 30	14 07	14 64	14 56

NEW YORK.

Muriate of Potash.....	1 86	1	19 61	15 88	15 85
Nitrate of Soda.....	2 23	1 90	3 32	4 58	1
Sulphate of Ammonia.....	2 85	2 73	4 10	6 73	6 97
Sulphur, rough.....	—	1 00	1 60	1 82	1 82
Sulphate of Copper.....	—	4 51	12 77	9 90	9 78

¹No quotation.

At the end of the Report there is a bibliography of more than 1,200 references to publications relating to fertilizers and agricultural chemicals.

VALUE OF CANADIAN FIELD CROPS, 1916-18.

In the accompanying table is presented a preliminary estimate by the Dominion Bureau of Statistics of the total value of the field crops of Canada for the year 1918, as compared with the finally revised estimates of 1916 and 1917.

The estimated values for 1918 represent the prices received by farmers, and are calculated from current market quotations; they are subject to revision after the compilation of returns from crop correspondents in December. According to the preliminary estimate the total value of all field crops for 1918 is \$1,383,081,675, as compared with \$1,144,636,450 in 1917 and \$886,494,900 in 1916. The total of \$1,383,081,675 is made up of \$410,114,250 for wheat, as compared with \$453,038,600 in 1917, of \$342,550,000 for oats, as compared with \$277,065,300, of \$246,041,600 for hay, clover and alfalfa, as compared with \$144,418,000 and of \$103,636,100 for potatoes, as compared with \$80,804,400. The aggregate value of other grain crops is \$201,208,000, as compared with \$145,428,450 in 1917 and of other root and fodder crops, \$79,531,725, as compared with \$43,881,700 in 1917.

Preliminary Estimate of the Value of Canadian Field Crops for 1918, as compared with finally revised Estimates for 1916 and 1917.

Field Crops.	1916.		1917.		1918.	
	per bush.	Total.	per bush.	Total.	per bush.	Total.
Wheat.....	1.31	344,096,400	1.94	453,038,600	1.95	410,114,250
Oats.....	0.51	210,957,500	0.69	277,065,300	0.75	342,550,000
Barley.....	0.82	35,024,000	1.08	59,654,400	0.85	70,773,000
Rye.....	1.11	3,196,000	1.62	6,267,200	1.62	16,808,000
Peas.....	2.22	4,919,000	3.54	10,724,100	2.10	9,208,000
Beans.....	5.40	2,228,000	7.45	9,493,400	5.00	19,687,000
Buckwheat.....	1.07	6,375,000	1.46	10,443,400	1.65	18,925,000
Flax.....	2.04	16,889,900	2.65	15,737,000	3.00	23,085,000
Mixed grains.....	0.88	9,300,900	1.16	18,801,750	1.00	32,303,000
Corn for husking.....	1.07	6,747,000	1.84	14,307,200	1.50	10,419,000
Potatoes.....	0.81	50,982,300	1.01	80,804,400	0.98	103,636,100
Turnips, etc.....	0.39	14,329,000	0.46	29,253,000	0.43	51,633,600
	per ton.		per ton.		per ton.	
Hay and clover.....	11.60	168,547,900	10.33	141,376,700	16.25	238,042,800
Fodder corn.....	4.92	9,396,000	5.14	13,834,900	6.20	26,053,125
Sugar beets.....	6.20	440,000	6.75	793,800	10.25	1,845,000
Alfalfa.....	10.69	3,066,000	11.59	3,041,300	17.75	7,998,800
Totals.....	-	886,494,900	-	1,144,636,450	-	1,383,081,675

The estimated values of the grain crops are based upon the yields as published in the October issue of the Monthly Bulletin according to the reports of September 30. It appears probable that the final estimates to be published as usual by provinces in January will show some diminution of yield and consequently of value.

THE WEATHER DURING OCTOBER.

The Dominion Meteorological Office reports that the mean temperature was above the normal in all parts of Canada, with the exception of the central and northern parts of British Columbia and southern New Brunswick. The largest positive departures, amounting to between 3° and 5°, occurred in the southern portions of Alberta and Ontario. The rainfall was considerably in excess of the average in British Columbia and in northern and eastern Ontario, and in western Quebec and southern New Brunswick; elsewhere it was either average or slightly below. Among the larger amounts reported were Prince Rupert, 14.8 inches; New Westminster, 8.9 inches; Ottawa and Kingston, 5.8 inches; Montreal 5.7 inches, and St. John, N.B., 6.6 inches.

PRICES OF AGRICULTURAL PRODUCE, 1918.

I. Weekly Range of Prices per bushel of Canadian Grain at Winnipeg and Fort William.

Grain and Grade.	Nov. 2.		Nov. 9.		Nov. 16.		Nov. 23.		Nov. 30.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—										
No. 1 Nor.....	2 24 ¹ / ₂	—	2 24 ¹ / ₂	—	2 24 ¹ / ₂	—	2 24 ¹ / ₂	—	2 24 ¹ / ₂	—
No. 2 Nor.....	2 21 ¹ / ₂	—	2 21 ¹ / ₂	—	2 21 ¹ / ₂	—	2 21 ¹ / ₂	—	2 21 ¹ / ₂	—
No. 3 Nor.....	2 17 ¹ / ₂	—	2 17 ¹ / ₂	—	2 17 ¹ / ₂	—	2 17 ¹ / ₂	—	2 17 ¹ / ₂	—
No. 4.....	2 11 ¹ / ₂	—	2 11 ¹ / ₂	—	2 11 ¹ / ₂	—	2 11 ¹ / ₂	—	2 11 ¹ / ₂	—
No. 5.....	1 99 ¹ / ₂	—	1 99 ¹ / ₂	—	1 99 ¹ / ₂	—	1 99 ¹ / ₂	—	1 99 ¹ / ₂	—
No. 6.....	1 90 ¹ / ₂	—	1 90 ¹ / ₂	—	1 90 ¹ / ₂	—	1 90 ¹ / ₂	—	1 90 ¹ / ₂	—
Feed.....	1 87	—1 89	1 85	—1 87	1 81	—1 82 ¹ / ₂	1 82	—	—	—
Oats—										
N. 2 C.W.....	0 80 ¹ / ₂	—0 86	0 81 ¹ / ₂	—0 83	0 81 ⁷ / ₈	—0 83 ¹ / ₂	0 84	—0 86 ³ / ₄	0 80	—0 82 ³ / ₄
No. 3 C.W.....	0 77 ¹ / ₈	—0 83	0 78 ¹ / ₂	—0 80	0 79	—0 81 ¹ / ₂	0 81	—0 84 ¹ / ₂	0 77	—0 79 ³ / ₄
No. 1 Feed Ex.....	0 78 ³ / ₄	—0 83	0 79 ¹ / ₂	—0 82	0 81	—0 82 ³ / ₄	0 82	—0 85 ¹ / ₂	0 77 ¹ / ₂	—0 80 ¹ / ₂
No. 1 Feed.....	0 75 ¹ / ₂	—0 81	0 76 ¹ / ₂	—0 79	0 78	—0 79 ¹ / ₂	0 80	—0 82 ³ / ₄	0 76	—0 78 ³ / ₄
No. 2 Feed.....	0 72 ¹ / ₈	—0 78	0 73 ¹ / ₄	—0 75	0 74	—0 76 ¹ / ₈	0 76 ¹ / ₄	—0 79 ¹ / ₂	0 72 ¹ / ₄	—0 75
Barley—										
No. 3 C.W.....	1 02	—1 07	1 04 ³ / ₄	—1 07 ³ / ₄	1 05	—1 07 ¹ / ₂	1 06 ¹ / ₂	—1 14 ¹ / ₂	1 04 ³ / ₄	—1 07
No. 4 C.W.....	0 97	—1 02	0 99 ¹ / ₂	—1 02 ¹ / ₂	1 00	—1 02 ¹ / ₂	1 01 ¹ / ₂	—1 09	0 99 ¹ / ₂	—1 02
Rejected.....	0 90 ¹ / ₂	—0 93 ¹ / ₂	0 92	—0 94 ¹ / ₂	0 92	—0 90 ¹ / ₂	0 89 ¹ / ₂	—0 97	0 87	—0 89 ¹ / ₂
Feed.....	0 89 ¹ / ₂	—0 92 ¹ / ₂	0 91	—0 93 ¹ / ₄	0 91	—0 80 ¹ / ₈	0 87 ¹ / ₂	—0 95	0 85	—0 87 ¹ / ₄
Flax—										
No. 1 N.W.C.....	3 46	—3 51	3 47 ³ / ₄	—3 82 ¹ / ₄	3 70	—3 77	3 57	—3 79 ¹ / ₂	3 47	—3 60
No. 2 C.W.....	3 43	—3 48	3 44 ¹ / ₂	—3 79	3 66 ¹ / ₂	—3 74	3 54	—3 76 ¹ / ₂	3 47	—3 57
No. 3 C.W.....	3 21	—3 26 ³ / ₄	3 22 ¹ / ₄	—3 45	3 28 ¹ / ₂	—3 34 ¹ / ₂	3 17	—3 41 ¹ / ₂	3 04	—3 16 ¹ / ₂

II. Range of Prices of Imported Grain and Flour at British Markets, 1918.

(From the "Mark Lane Express," London England, Mark Lane, London, E.C.)

Description.	Oct. 7.		Oct. 14.		Oct. 21.		Oct. 28.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—								
Canadian No. 1.....	2 42 ³ / ₄	—	2 42 ³ / ₄	—	2 42	—	2 48	—
" No. 2.....	2 37 ³ / ₄	—	2 37 ³ / ₄	—	2 37 ³ / ₄	—	2 48	—
" No. 3.....	2 31 ³ / ₄	—	2 31 ³ / ₄	—	2 31 ³ / ₄	—	—	—
" No. 4.....	2 23 ³ / ₈	—	2 23 ³ / ₈	—	2 23 ³ / ₈	—	—	—
" No. 5.....	2 19 ¹ / ₄	—	2 19 ¹ / ₄	—	2 19 ¹ / ₄	—	—	—
" No. 6.....	2 06 ¹ / ₄	—	2 06 ¹ / ₄	—	—	—	—	—
American—								
Spring.....	2 38 ¹ / ₂	—2 41 ¹ / ₂	2 38 ¹ / ₂	—2 41 ¹ / ₂	2 38 ¹ / ₂	—2 41 ¹ / ₂	2 48	—
Hard winter.....	2 35 ¹ / ₂	—2 38 ¹ / ₂	2 38 ¹ / ₂	—2 41 ¹ / ₂	2 38 ¹ / ₂	—2 41 ¹ / ₂	2 48	—
Red winter.....	2 29 ¹ / ₂	—2 35 ¹ / ₂	2 26 ¹ / ₂	—2 35 ¹ / ₂	2 29 ¹ / ₂	—2 35 ¹ / ₂	2 48	—
Californian.....	2 39 ¹ / ₂	—2 45 ¹ / ₂	2 39 ¹ / ₂	—2 45 ¹ / ₂	2 39 ¹ / ₂	—2 45 ¹ / ₂	2 48	—2 54
Australian.....	2 53 ¹ / ₂	—	2 52 ¹ / ₂	—	2 52 ¹ / ₂	—	2 48	—
Indian.....	2 56	—	2 56	—	2 56	—	2 48	—
Argentine.....	2 43 ¹ / ₂	—2 45 ¹ / ₂	2 43 ¹ / ₂	—2 45 ¹ / ₂	2 40 ¹ / ₂	—2 45 ¹ / ₂	2 48	—
Oats—								
Canadian.....	1 65 ¹ / ₂	—1 68	1 65 ¹ / ₂	—1 68	1 65 ¹ / ₂	—1 68	1 65 ¹ / ₂	—1 68
American.....	1 57 ¹ / ₂	—1 60 ¹ / ₂	1 57 ¹ / ₂	—1 60 ¹ / ₂	1 57 ¹ / ₂	—1 60 ¹ / ₂	1 57 ¹ / ₂	—1 60 ¹ / ₂
Argentine.....	1 62 ¹ / ₂	—1 65 ¹ / ₂	1 62 ¹ / ₂	—1 65 ¹ / ₂	1 62 ¹ / ₂	—1 65 ¹ / ₂	1 62 ¹ / ₂	—1 65 ¹ / ₂
Flour (per 280 lb.)—								
Canadian Spring.....	12 21	—12 59	12 21	—12 59	12 21	—12 59	12 21	—12 59
American Spring.....	12 21	—12 59	12 21	—12 59	12 21	—12 59	12 21	—12 59
American Winter.....	12 21	—12 59	12 21	—12 59	12 21	—12 59	12 21	—12 59

LIVERPOOL.

(From "Broomhall's Corn Trade News," Liverpool.)

Description.	Oct. 1.		Oct. 8.		Oct. 15.		Oct. 22.		Oct. 29.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—										
Nor. Man. No. 1.....	2 38 $\frac{1}{2}$	—	2 38 $\frac{1}{2}$	—	2 38 $\frac{1}{2}$	—	2 50	—	2 50	—
Nor. Man. No. 4.....	2 20 $\frac{3}{4}$	—	2 20 $\frac{3}{4}$	—	2 20 $\frac{3}{4}$	—	2 50	—	2 50	—
Hard Winter No. 2.....	2 34	—	2 34	—	—	—	—	—	—	—
Red Winter No. 1.....	—	—	—	—	2 37	—	2 37	—	2 50	—
Spl. Red Winter, new.....	2 34	—	2 34	—	2 34	—	2 50	—	2 50	—
Australian.....	2 49 $\frac{3}{4}$	—	2 49 $\frac{3}{4}$	—	2 49 $\frac{3}{4}$	—	2 50	—	2 50	—
Flour (per 280 lb.)—										
Manitoba.....	12 41—12 59		12 41—12 59		12 41—12 59		12 41—12 59		21 41—12 59	
Kansas.....	12 41—12 59		12 41—12 59		12 41—12 59		12 41—12 59		12 41—12 59	
Oatmeal (per 240 lb.)—										
Canada or American.....	16 79—17 03		16 79—17 03		16 79—17 03		16 79—17 03		16 79—17 03	
Canada or American rolled oats.....	16 79—17 03		16 79—17 03		16 79—17 03		16 79—17 03		16 79—17 03	

III. Average Prices of British Grown Grain, 1918.

(From the "London Gazette," as published pursuant to s. 8 of the Corn Returns Act, 1882.)

Week ended..	Wheat.		Barley.		Oats.	
	Per quarter	Per bushel.	Per quarter.	Per bushel.	Per quarter.	Per bushel.
	s. d.	\$	s. d.	\$	s. d.	\$
October 5.....	72 8	2·210	60 3	1·759	50 9	1·344
" 12.....	72 6	2·205	60 3	1·759	51 6	1·365
" 19.....	72 7	2·208	60 3	1·759	50 9	1·344
" 26.....	72 5	2·203	60 3	1·759	50 5	1·335
Average.....	72 7	2·207	60 3	1·759	50 9	1·347

IV. Monthly Range of Prices per bushel of Grain at Selected Markets in the United States, 1918.

(From the Monthly Crop Report of the U.S. Dept. of Agriculture.)

Grade and Market.	July.		August.		September.		October.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat, Red Winter, No. 2—								
St. Louis.....	2 21—2 35		2 06—2 25		2 21—2 26 $\frac{1}{2}$		2 21—2 24 $\frac{1}{2}$	
Chicago.....	2 23—2 30		2 23—2 25		2 23—2 25		2 23—2 25	
New York (f.o.b. afloat).....	2 36 $\frac{1}{2}$ —	—	2 38—	—	2 38—2 38		2 38—	—
Corn, No. 2 mixed—								
St. Louis.....	1 54—1 80		1 57—1 95		1 63—1 70		1 45—1 50	
Corn No. 2—								
Chicago.....	1 60—1 75		1 60—1 80		1 40—1 65		1 35—1 45	
Oats No. 2—								
St. Louis.....	0 66—0 78 $\frac{1}{2}$		0 65 $\frac{1}{2}$ —0 77		0 69 $\frac{1}{2}$ —0 74		0 67—0 71	
Chicago.....	0 72 $\frac{1}{2}$ —0 74 $\frac{1}{2}$		0 67 $\frac{1}{2}$ —0 72 $\frac{1}{2}$		0 70 $\frac{1}{2}$ —0 73 $\frac{1}{2}$		0 66 $\frac{3}{4}$ —0 71 $\frac{1}{2}$	
Rye, No. 2—								
Chicago.....	1 60—1 85		1 55—1 79		1 58—1 68		1 61—1 64	

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PATENT OFFICE RECORD (Monthly).

RULES AND FORMS OF THE CANADIAN PATENT OFFICE.

FOOD INSPECTION BULLETINS.

For List of Publications of the Dominion Bureau of Statistics, see page iv of cover.

PUBLICATIONS

OF THE

DOMINION BUREAU OF STATISTICS.

ANNUAL REPORT OF THE TRADE OF CANADA.

MONTHLY REPORT OF THE TRADE OF CANADA.

THE CANADA YEAR BOOK, 1916-17, with Map of Canada and Newfoundland, a Statistical Summary of the Progress of Canada and numerous illustrations pp. 1-xvi, 1-720.

Contents: I Natural Resources of the Dominion of Canada, by WATSON GRIFFIN, Department of Trade and Commerce, Ottawa, with 10 illustrations; II Physical Characteristics of Canada, including Geographical Features; Economic Geology in Canada, 1917, by WYATT MALCOLM, Department of Mines, Ottawa; III Area and Population; IV Education; V Climate and Meteorology, with Diagram; VI Production; VII Trade and Commerce; VIII Transportation and Communications; IX Labour; X Finance; XI Administration; XII Legislation and Principal Events of the Years 1916 and 1917; XIII Extracts from the Canada Gazette 1916 and 1917.

THE CANADA YEAR BOOK. Second Series 1905-1915. [1910 and 1913, out of print.]

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. Nos. I to XIX.

REPORT OF THE FIFTH CENSUS OF CANADA, 1911.

Vol. I, 1912. Areas and Population by Provinces, Districts and Subdistricts with Introduction. Tables I to XV, pp. i-viii, 1-623. [Out of print.]

Vol. II, 1913. Religions, Origins, Birthplace, Citizenship, Literacy and Infirmities by Provinces, Districts and Subdistricts, with Introduction. Tables I-XLVI, pp. i-iv, 1-634.

Vol. III, 1913. Manufactures for 1910 as enumerated in June 1911, with Introduction. Tables I-XX, pp. i-xvi, 1-432.

Vol. IV, 1914. Agriculture with Introduction. Tables 1-90; I-XXXV, pp. i-xcv, 1-428. Diagrams, 5 pp. [Out of print.]

Vol. V, 1915. Forest, Fishery, Fur and Mineral Production, with Introduction. Tables 1-51; I-XXVI, pp. i-l, 1-171.

Vol. VI, 1916. Occupations of the People, with Introduction. Tables 1-25; I-VI, i-xxi, 1-469. [Out of print.]

REPORT OF THE CENSUS OF POPULATION AND AGRICULTURE OF THE PRAIRIE PROVINCES, 1916. January 12, 1918. Tables 1-54; I-XXVI, pp. i-lxiv, 1-356.

SPECIAL REPORT ON THE FOREIGN-BORN POPULATION. Abstracted from the Records of the Fifth Census of Canada. June, 1911. 23 tables. 62 pp. 1915.

REPORT OF THE POSTAL CENSUS OF MANUFACTURES, 1916. pp. i-xi; 1-263, 1917.

REPORT ON THE PRODUCTION OF CREAMERIES AND CHEESE FACTORIES, 1915 and 1916. pp. 1-24, 1917.

CRIMINAL STATISTICS. Annual Report for Year ended September 30, 1915. pp. i-xliv, 1-398.

CENSUS AND STATISTICS MONTHLY, Vols. 1-9, 1908-1916; Vol. 10, Nos. 101-103, 1917. MONTHLY BULLETIN OF AGRICULTURAL STATISTICS, Vols. 10 and 11, Nos. 104-123, 1917-18.

For List of Publications of the Department of Trade and Commerce, see page iii of cover.

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VOL. 12

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OF

AGRICULTURAL STATISTICS

January, 1919.

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G.C.M.G., M.P., Minister of Trade and Commerce.



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Printer to the King's Most Excellent Majesty

1919

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MONTHLY BULLETIN OF AGRICULTURAL STATISTICS

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DOMINION STATISTICIAN: R. H. COATS, B.A., F.S.S. EDITOR: ERNEST H. GODFREY, F.S.S.
DOMINION BUREAU OF STATISTICS, OTTAWA, CANADA.

FIELD CROPS OF CANADA.

Report for the year ended December 31, 1918.

The Dominion Bureau of Statistics, in this number, publishes its annual report on the area, yield, quality and value of the field crops of Canada for the season of 1918, as compared with 1917. The agricultural statistics of 1918 for all the provinces have been collected in co-operation with the Provincial Governments under the system applied for the first time in 1917 in the provinces of Quebec, Saskatchewan, Alberta and British Columbia. In general, therefore, the reports of both the Dominion and Provincial Governments on the yield of crops in 1918 record identical results. In estimating the average yields per acre of wheat, barley, oats and flax, reports were again collected from the postmasters of the three Prairie Provinces, and the average yields finally adopted were settled in conjunction with the officers of the Provincial Governments. In comparing the statistics of 1918 with those of previous years, it should be noted that the comparability of the figures is affected by the change of method; and where large differences are apparent they may be due rather to the greater accuracy of the improved method than to actual difference. It is not possible to ascertain to what extent the differences may be actual or may be due to the change of method.

THE SEASON OF 1918.

At first, conditions were favourable, as an early spring and good weather enabled seeding to be completed in excellent time, whilst the area sown to wheat, viz., 17,353,902 acres, was the largest on record. In the West, however, May was exceptionally cold, with heavy frost retarding growth. In June, drought and high winds caused drifting, and large areas had to be resown. The drought in the West continued until towards the end of July, and serious damage to wheat in the blossom stage was caused by heavy frosts from July 23 to 25. In the Maritime Provinces, Quebec and Ontario, the conditions were generally favourable, and the harvest was good. Ontario, especially, had an excellent season for the second year in succession.

AREA AND YIELD OF GRAIN CROPS.

The total yield of wheat for Canada in 1918 is returned as 189,075,350 bushels from 17,353,902 sown acres, an average yield per acre of 11 bushels. In 1917 the corresponding figures were 233,742,850 bushels from 14,755,850 acres, a yield per acre of 15 $\frac{3}{4}$ bushels. The yield of oats in 1918 was 426,312,500 bushels from

14,790,336 acres, an average of $28\frac{3}{4}$ bushels per acre, as compared with 403,009,800 bushels from 13,313,400 acres in 1917, an average of $30\frac{1}{4}$ bushels per acre. Of the remaining grain crops the total yields in 1918, with the figures for 1917 in round brackets, were, in bushels, as follows: Barley 77,287,240 (55,057,750), rye 8,504,400 (3,857,200), peas 3,099,400 (3,026,340), beans 3,563,380 (1,274,000), buckwheat 11,375,500 (7,149,400), flax 6,055,200 (5,934,900), mixed grains 35,662,300 (16,157,080), corn for husking 14,214,200 (7,762,700), potatoes 104,364,200 (79,892,000), turnips, etc., 122,699,600 (63,451,000), hay and clover 14,772,300 tons (13,684,700), fodder corn 4,787,500 tons (2,690,370), sugar beets 180,000 tons (117,600), alfalfa 446,400 tons (262,400). The average yields per acre of these crops with last year's averages in brackets were, in bushels, as follows: Barley $24\frac{1}{2}$ (23), rye $15\frac{1}{4}$ ($18\frac{1}{4}$), peas $13\frac{1}{4}$ ($15\frac{1}{4}$), beans $15\frac{1}{2}$ ($13\frac{3}{4}$), buckwheat $20\frac{3}{4}$ (18), flax $5\frac{3}{4}$ ($6\frac{1}{2}$), mixed grains $38\frac{3}{4}$ ($32\frac{1}{2}$), corn for husking $56\frac{3}{4}$ (33), potatoes 142 ($121\frac{1}{2}$), turnips, mangolds, etc. $377\frac{1}{2}$ ($290\frac{3}{4}$), hay and clover 1.40 ton (1.66), fodder corn $9\frac{1}{2}$ tons (7.34), sugar beets 10 tons (8.40), alfalfa $2\frac{1}{4}$ tons (2.39).

QUALITY OF GRAIN CROPS.

The quality of the grain crops of 1918, as indicated by the weight in lb. per measured bushel, was as follows: Fall wheat 61.19 lb., as compared with 59.37 lb. and 60.11 lb., the average for the ten years 1907-18, spring wheat 58.69 lb., as compared with 59.48 lb. and 59.26 lb., the decennial average; oats 35.61 lb., against 33.55 lb. and 35.31 lb.; barley 47.24 lb., against 46.97 lb. and 47.39 lb.; rye 55.60 lb., against 53.44 lb. and 55.18 lb.; peas 59.93 lb., against 59.81 lb. and 59.51 lb.; beans 58.67 lb., against 59.70 lb. and 59.56 lb.; buckwheat 47.41 lb., against 46.49 lb. and 47.76 lb.; flax 53.72 lb., against 54.73 lb. and 55.40 lb.; mixed grains 46.39 lb., against 44.41 lb. and 44.78 lb., and corn for husking 53.97 lb., against 56.18 lb. and 56.52 lb.

AREA AND YIELD OF ROOT AND FODDER CROPS.

The area under root and fodder crops, consisting of potatoes, turnips, etc., hay and clover, alfalfa, fodder corn and sugar beets, amounted to 12,321,351 acres, as compared with 9,590,568 acres in 1917, all these crops sharing in the increase. The total area planted to field potatoes was 735,192 acres, as compared with 656,958 acres in 1917, both years establishing records. The estimated yield per acre for Canada is 142 bushels, as compared with $121\frac{1}{2}$ bushels in 1917, and with $150\frac{1}{4}$ bushels, the average for the ten years 1908-17. The total estimated yield of potatoes for 1918 is 104,364,200 bushels, as compared with 79,892,000 bushels in 1917. The yield for 1918 is the highest on record, the previous record being over 99 million bushels in 1909. By provinces, the highest average yield per acre is in British Columbia, 228 bushels, the other provinces ranging in order as follows: Nova Scotia $190\frac{3}{4}$, Manitoba 185, Prince Edward Island 170, New Brunswick $158\frac{1}{2}$, Quebec 147, Ontario 116.60,

Saskatchewan $116\frac{1}{4}$, and Alberta $70\frac{1}{2}$ bushels per acre. The largest acreage and production of potatoes this year is in Quebec, the total yield being 38,936,000 bushels from 264,871 acres, Ontario being next with 19,376,000 bushels from 166,203 acres. Turnips, man-golds, etc., yielded 122,699,600 bushels from 325,037 acres, an average yield per acre of $377\frac{1}{2}$ bushels, as compared with 63,451,000 bushels from 218,233 acres and $290\frac{3}{4}$ bushels per acre in 1917. The yield of sugar beets grown for beetroot sugar was 180,000 tons from 18,000 acres, all in Ontario. Hay and clover in 1918 gave a record yield of 14,772,300 tons from 10,544,625 acres, as compared with 13,684,700 tons from 8,225,034 acres in 1917, the yield per acre being 1.40 ton, as against 1.66 ton in 1917. The previous record was 14,527,000 tons in 1916. Alfalfa gave the yield of 446,400 tons from 196,428 acres, an average per acre of $2\frac{1}{4}$ tons. Of fodder corn the estimated yield in 1918 is 4,787,500 tons from 502,069 acres, an average of $9\frac{1}{2}$ tons per acre.

VALUES OF FIELD CROPS.

The average values per bushel of grain crops for Canada in 1918, according to the prices returned by the crop correspondents of the Dominion Bureau of Statistics, are as follows: Fall wheat \$2.08 as against the same price in 1917; spring wheat \$2.02, as against \$1.93; all wheat \$2.02, as against \$1.94; oats 78 cents, against 69 cents; barley \$1, against \$1.08; rye \$1.49, against \$1.62; peas \$2.54, against \$3.54; beans \$5.41, against \$7.45; buckwheat \$1.58, against \$1.46; mixed grains \$1.14, against \$1.16; flax \$3.13, against \$2.65 and corn for husking \$1.75, against \$1.84. For potatoes the price is 98 cents per bushel, as compared with \$1 in 1917, and for turnips, etc., 43 cents per bushel, as against 46 cents. Hay and clover have the record price per ton of \$16.25, as compared with \$10.33 in 1917. For alfalfa the price is \$17.84, also the highest on record, as against \$11.59 in 1917. The price of fodder corn is \$6.15 per ton, against \$5.14 and of sugar beets \$10.25, against \$6.75.

The total farm values of the principal field crops of 1918 are estimated as follows, the corresponding values of 1917 being given in brackets: Wheat \$381,677,700 (\$453,038,600); oats \$331,357,400 (\$277,065,300); barley \$77,378,670 (\$59,654,400); rye \$12,728,600 (\$6,267,200); peas \$7,873,100 (\$10,724,100); beans \$19,283,900 (\$9,493,400); buckwheat \$18,018,100 (\$10,443,400); mixed grains \$40,726,500 (\$18,801,750); flax \$18,951,000 (\$15,737,000); corn for husking, \$24,902,800 (\$14,307,200); potatoes, \$102,235,300 (\$80,804,400); turnips, etc., \$52,252,000 (\$29,253,000); hay and clover \$241,277,300 (\$141,376,700); fodder corn \$29,439,100 (\$13,834,900); sugar beets \$1,845,000 (\$793,800); and alfalfa \$7,963,500 (\$3,041,300).

The total value of the field crops of Canada in 1918 is estimated at \$1,367,909,970, which is again the highest on record, and compares with \$1,144,636,450 in 1917. The total includes grain crops, \$932,897,770 (\$875,532,350); potatoes and sugar beets \$104,080,300 (\$81,598,200); and fodder crops \$330,931,900 (\$187,505,900).

WHEAT, OATS, BARLEY, AND FLAX IN THE PRAIRIE PROVINCES.

In the three Prairie provinces of Manitoba, Saskatchewan and Alberta, the production of wheat in 1918 is estimated at 164,436,100 bushels, as compared with 211,953,100 bushels in 1917; of oats, 222,049,500 bushels, as compared with 254,877,200 bushels; of barley 47,607,400 bushels, compared with 40,384,100 bushels and of flax 5,776,000 bushels, as compared with 5,835,900 bushels. The estimated wheat production of 1918 in Manitoba is 48,191,100 bushels from 2,983,702 acres, in Saskatchewan 92,493,000 bushels from 9,249,260 acres, and in Alberta 23,752,000 bushels from 3,892,489 acres.

DESCRIPTION OF TABLES.

Table I gives for Canada and the provinces the area, yield and value of the principal field crops of 1918, as compared with 1915, 1916 and 1917, with quality also in the case of grain crops, as indicated by the weight per measured bushel. Table II shows the area and yield of wheat, oats, barley and flaxseed in the three Prairie Provinces for the years 1916, 1917 and 1918, and Table III shows for Canada and by provinces the total estimated areas and values of field crops for the six years 1913 to 1918. For 1918 the total area under field crops is placed at 51,427,190 acres, as compared with 42,602,288 acres in 1917 and 38,930,333 acres in 1916.

Dominion Bureau of Statistics,
Ottawa, January 24, 1919.

ERNEST H. GODFREY,
Editor.

I. Area, Yield, Quality and Value of Principal Field Crops in Canada, 1915-18.

Field Crops.	Area.	Yield per acre.	Total Yield	Weight per measured bushel.	Average price per bushel.	Total Value
	acres.	bush.	bush.	lb.	\$	\$
Canada—						
Fall wheat.....1915	1,030,581	28.45	29,320,600	59.71	0.90	27,149,700
1916	818,264	21.50	17,590,000	59.52	1.54	27,118,300
1917	725,300	21.50	15,533,450	59.37	2.08	32,336,900
1918	416,615	19.00	7,942,800	61.19	2.08	16,516,000
Spring wheat....1915	14,078,834	25.87	364,222,000	60.31	0.91	329,667,200
1916	14,551,445	16.85	245,191,000	56.51	1.29	316,978,100
1917	14,030,550	15.50	218,209,400	59.48	1.93	420,701,700
1918	16,937,287	10.75	181,132,550	58.69	2.02	365,151,700
All wheat.....1915	15,109,415	26.05	393,542,600	60.19	0.91	356,816,900
1916	15,369,709	17.10	262,781,000	57.10	1.31	344,096,400
1917	14,755,850	15.75	233,742,850	59.46	1.94	453,038,600
1918	17,353,902	11.00	189,075,350	59.44	2.02	381,677,700
Oats.....1915	11,555,681	40.24	464,954,400	36.61	0.36	171,009,100
1916	10,996,487	37.30	410,211,000	33.86	0.51	210,957,500
1917	13,313,400	30.25	403,009,800	33.55	0.69	277,065,300
1918	14,790,336	28.75	426,312,500	35.61	0.78	331,357,400

I. Area, Yield, Quality and Value of Principal Field Crops in Canada, 1915-18—con.

Field Crops.	Area.	Yield per acre.	Total Yield.	Weight per measured bushel.	Average price per bushel.	Total Value
	acres.	bush.	bush.	lb.	\$	\$
Canada—con.						
Barley.....1915	1,718,432	31.51	54,017,100	48.26	0.52	27,985,800
1916	1,802,996	23.72	42,770,000	45.66	0.82	35,024,000
1917	2,392,200	23.00	55,057,750	46.97	1.08	59,654,400
1918	3,153,711	24.50	77,287,240	47.24	1.00	77,378,670
Rye.....1915	121,677	20.43	2,486,200	56.32	0.77	1,921,900
1916	148,404	19.38	2,876,400	54.95	1.11	3,196,000
1917	211,880	18.25	3,857,200	53.44	1.62	6,267,200
1918	555,294	15.25	8,504,400	55.60	1.49	12,728,600
Peas.....1915	196,065	17.67	3,464,250	60.74	1.65	5,724,100
1916	151,790	14.50	2,218,100	59.88	2.22	4,919,000
1917	198,881	15.25	3,026,340	59.81	3.54	10,724,100
1918	235,976	13.25	3,099,400	59.93	2.54	7,873,100
Beans.....1915	43,310	16.70	723,400	59.61	3.05	2,206,800
1916	32,500	12.70	412,600	60.00	5.40	2,228,000
1917	92,457	13.75	1,274,000	59.70	7.45	9,493,400
1918	228,577	15.50	3,563,380	58.67	5.41	19,283,900
Buckwheat.....1915	343,800	22.88	7,865,900	48.02	0.75	5,913,000
1916	341,500	17.50	5,976,000	46.35	1.07	6,375,000
1917	395,977	18.00	7,149,400	46.49	1.46	10,443,400
1918	548,097	20.75	11,375,500	47.41	1.58	18,018,100
Mixed grains.....1915	467,001	37.51	17,517,600	44.98	0.57	10,062,300
1916	412,670	25.75	10,584,800	43.13	0.88	9,300,900
1917	497,236	32.50	16,157,080	44.41	1.16	18,801,750
1918	921,826	38.75	35,662,300	46.39	1.14	40,726,500
Flax.....1915	463,359	13.19	6,114,000	55.28	1.51	9,210,400
1916	657,781	12.56	8,259,800	54.99	2.04	16,889,900
1917	919,500	6.50	5,934,900	54.73	2.65	15,377,000
1918	1,068,120	5.75	6,055,200	53.72	3.13	18,951,000
Corn for husking..1915	253,300	56.72	14,368,000	56.32	0.71	10,243,000
1916	173,000	36.25	6,282,000	56.51	1.07	6,747,000
1917	234,339	33.00	7,762,700	56.18	1.84	14,307,200
1918	250,000	56.75	14,214,200	53.97	1.75	24,902,800
Potatoes.....1915	485,777	124.24	60,353,000	—	0.60	36,459,800
1916	472,992	133.82	63,297,000	—	0.81	50,982,300
1917	656,958	121.50	79,892,000	—	1.01	80,804,400
1918	735,192	142.00	104,364,200	—	0.98	102,235,300
Turnips, man- golds, etc.....1915	156,691	384.05	60,175,000	—	0.24	14,588,700
1916	141,839	264.24	36,921,100	—	0.39	14,329,000
1917	218,233	290.75	63,451,000	—	0.46	29,253,000
1918	325,037	377.50	122,699,600	—	0.43	52,252,000
Hay and clover...1915	7,776,995	tons.	tons.	per ton.		
1916	7,821,257	1.36	10,612,000	—	14.37	152,531,600
1917	8,225,034	1.86	14,527,000	—	11.60	168,547,900
1918	10,544,625	1.66	13,684,700	—	10.33	141,376,700
Fodder corn.....1915	332,469	1.40	14,772,300	—	16.25	241,277,300
1916	293,058	10.17	3,382,770	—	4.91	16,612,600
1917	366,518	6.65	1,907,800	—	4.92	9,396,000
1918	502,069	7.34	2,690,370	—	5.14	13,834,900
		9.50	4,787,500	—	6.15	29,439,100

I. Area, Yield, Quality and Value of Principal Field Crops in Canada, 1915-18—con.

Field Crops.	Area.	Yield per acre.	Total Yield.	Weight per measured bushel.	Average price per ton.	Total Value.
	acres.	tons.	tons.	lb.	\$	\$
Canada—con.						
Sugar beets.....1915	18,000	7.83	141,000	—	5.50	775,500
1916	15,000	4.75	71,000	—	6.20	440,000
1917	14,000	8.40	117,600	—	6.75	793,800
1918	18,000	10.00	180,000	—	10.25	1,845,000
Alfalfa.....1915	98,488	2.65	260,970	—	12.68	3,309,100
1916	99,350	2.91	286,750	—	10.69	3,066,000
1917	109,825	2.39	262,400	—	11.59	3,041,300
1918	196,428	2.25	446,400	—	17.84	7,963,500
Prince Edward Isl'd—		bush.	bush.		per bush.	
Spring wheat.....1915	34,400	19.00	653,600	59.05	1.08	705,800
1916	34,500	16.75	578,000	58.79	1.52	705,800
1917	36,000	14.50	522,000	57.63	2.09	1,091,000
1918	30,352	20.00	606,000	59.93	2.22	1,344,000
Oats.....1915	196,000	34.86	6,832,500	36.70	0.45	3,074,600
1916	199,000	37.25	7,413,000	36.93	0.61	4,522,000
1917	201,000	32.25	6,482,300	34.80	0.80	5,185,800
1918	169,729	34.50	5,839,000	36.42	0.77	4,535,000
Barley.....1915	3,700	28.88	106,800	48.83	0.71	75,800
1916	3,600	29.25	105,000	47.40	0.95	100,000
1917	3,500	28.50	99,750	46.45	1.22	121,700
1918	5,672	28.50	162,000	49.31	1.25	203,400
Peas.....1915	70	15.75	1,100	61.67	2.33	2,500
1916	60	22.25	1,300	59.71	2.19	2,800
1917	60	14.00	840	60.60	2.86	2,400
1918	460	16.00	7,300	60.66	2.90	21,200
Buckwheat.....1915	2,600	29.00	75,400	48.15	0.75	56,500
1916	2,500	27.25	68,000	49.10	1.00	68,000
1917	2,500	29.00	72,500	47.80	1.32	95,700
1918	5,592	21.75	122,000	48.77	1.44	175,500
Mixed grains.....1915	8,000	38.65	309,200	43.00	0.55	170,000
1916	8,000	41.25	330,000	47.60	0.75	248,000
1917	7,800	38.25	298,400	42.61	0.98	292,400
1918	13,475	44.50	600,000	45.00	1.04	623,400
Potatoes.....1915	31,000	114.78	3,558,000	—	0.46	1,637,000
1916	31,000	206.00	6,386,000	—	0.52	3,321,000
1917	35,000	175.00	6,125,000	—	0.75	4,594,000
1918	31,543	170.00	5,362,300	—	0.63	3,378,000
Turnips, man- golds, etc. 1915	7,900	449.46	3,551,000	—	0.26	923,000
1916	8,000	477.00	3,816,000	—	0.28	1,068,000
1917	8,100	505.39	4,094,000	—	0.31	1,269,000
1918	8,246	520.50	4,292,000	—	0.29	1,244,700
Hay and clover...1915	198,000	1.77	351,000	—	per ton 12.18	4,275,000
1916	199,000	1.70	338,000	—	11.56	3,907,000
1917	197,000	1.55	305,400	—	12.67	3,869,000
1918	222,691	1.50	334,000	—	14.17	4,732,800
Fodder corn.....1915	260	13.00	3,400	—	3.00	10,200
1916	250	13.00	3,300	—	2.50	8,300
1917	250	7.00	1,800	—	5.00	9,000
1918	420	5.25	2,200	—	9.00	19,800

I. Area, Yield, Quality and Value of Principal Field Crops in Canada, 1915-18—con.

Field Crops.	Area.	Yield per acre.	Total Yield.	Weight per measured bushel.	Average price per bush.	Total Value.
Nova Scotia—	acres.	bush.	bush.	lb.	\$	\$
Spring wheat.....1915	13,300	18.57	247,000	59.26	1.21	298,700
1916	13,400	19.50	261,000	59.95	1.70	444,000
1917	16,200	15.75	255,150	57.93	2.34	597,000
1918	32,737	22.25	728,000	59.43	2.36	1,718,000
Oats.....1915	112,000	31.14	3,487,700	34.18	0.59	2,057,700
1916	116,000	34.75	4,031,000	34.19	0.71	2,862,000
1917	123,000	29.25	3,597,800	32.28	0.92	3,310,000
1918	145,036	37.25	5,403,000	34.69	1.06	5,727,000
Barley.....1915	4,900	26.20	128,400	48.39	0.80	102,700
1916	4,900	26.25	123,000	48.58	0.99	122,000
1917	4,800	24.75	118,800	46.54	1.34	159,200
1918	11,571	30.00	347,000	48.19	1.62	562,000
Rye.....1915	300	15.00	4,500	56.00	1.08	4,900
1916	320	17.00	5,400	56.00	1.25	6,800
1917	300	15.00	4,500	54.50	1.67	7,500
1918	531	14.50	7,700	55.67	1.85	14,200
Peas.....1915	190	18.66	3,550	59.00	2.01	7,100
1916	180	17.75	3,200	59.80	2.73	8,700
1917	170	14.25	2,400	58.50	4.44	10,700
1918	1,753	18.75	33,000	59.50	3.20	106,000
Beans.....1915	840	17.50	14,700	59.83	3.87	56,800
1916	850	16.25	13,800	60.00	5.62	78,000
1917	1,000	17.75	17,750	59.00	7.95	141,100
1918	8,829	16.25	143,000	59.14	7.34	1,050,000
Buckwheat.....1915	10,200	21.72	221,500	47.45	0.72	159,500
1916	10,000	24.50	245,000	46.97	0.84	206,000
1917	10,900	21.00	228,900	46.56	1.14	261,000
1918	19,342	23.00	445,000	47.10	1.35	601,000
Mixed grains.....1915	4,100	34.16	140,000	43.05	0.71	99,400
1916	4,100	34.00	139,000	44.07	0.92	128,000
1917	4,000	24.00	96,000	39.91	1.24	119,000
1918	5,407	36.00	195,000	42.24	1.30	254,000
Potatoes.....1915	33,700	141.23	4,759,000	—	0.58	2,760,000
1916	34,500	201.00	6,935,000	—	0.69	4,785,000
1917	41,000	174.94	7,173,000	—	0.92	6,599,000
1918	51,250	190.75	9,776,000	—	0.93	9,092,000
Turnips, man- golds, etc. 1915	9,200	390.02	3,589,000	—	0.34	1,223,000
1916	9,000	404.00	3,636,000	—	0.42	1,527,000
1917	9,100	350.93	3,193,000	—	0.47	1,501,000
1918	23,823	391.25	9,320,700	—	0.58	5,406,000
Hay and clover...1915	538,000	1.78	958,000	—	13.33	12,770,000
1916	553,000	1.80	995,000	—	12.25	12,189,000
1917	542,000	1.65	894,300	—	11.83	10,580,000
1918	605,464	1.45	878,000	—	20.00	17,560,000
Fodder corn.....1915	500	4.64	2,300	—	7.00	16,000
1916	500	8.75	4,400	—	2.50	11,000
1917	480	9.20	4,400	—	6.00	26,400
1918	4,644	9.50	44,000	—	9.00	396,000

I. Area, Yield, Quality and Value of Principal Field crops in Canada, 1915-18—con.

Field Crops.	Area.	Yield per acre.	Total Yield.	Weight per measured bushel.	Average price per ton.	Total Value.
	acres.	tons.	tons.	lb.	\$	\$
Nova Scotia—con.						
Alfalfa.....1915	30	2.30	70	—	13.00	900
1916	30	5.00	150	—	15.00	2,300
1917	30	3.50	100	—	15.00	1,500
New Brunswick—		bush.	bush.		per bush.	
Spring wheat.....1915	14,000	19.09	267,000	59.59	1.26	335,000
1916	14,000	17.25	242,000	59.20	1.72	416,000
1917	16,000	12.00	192,000	58.43	2.25	432,000
1918	49,453	19.00	940,250	59.68	2.32	2,183,700
Oats.....1915	201,000	27.66	5,559,600	36.33	0.55	3,058,000
1916	198,000	30.50	6,039,000	35.49	0.68	4,107,000
1917	190,000	22.50	4,275,000	33.33	0.94	4,018,500
1918	224,442	31.50	7,051,400	35.32	0.97	6,877,400
Barley.....1915	2,100	22.96	48,000	48.85	0.85	40,800
1916	1,900	23.75	45,000	46.70	1.00	45,000
1917	1,800	22.00	39,600	42.84	1.36	53,900
1918	6,601	24.75	163,140	47.87	1.55	253,270
Rye.....1918	308	16.25	5,000	—	1.85	9,000
Peas.....1915	420	17.08	6,700	60.27	2.52	16,900
1916	400	16.50	6,600	60.21	2.46	16,200
1917	400	15.00	6,000	60.45	2.83	17,000
1918	4,077	14.75	60,100	59.37	3.68	221,200
Beans.....1915	270	21.37	5,700	60.71	4.03	23,000
1916	250	15.25	3,800	60.54	6.11	23,000
1917	300	19.50	5,850	59.00	8.75	51,200
1918	5,491	15.50	85,580	59.39	8.05	689,400
Buckwheat.....1915	58,000	22.68	1,315,000	47.51	0.73	960,000
1916	53,000	22.75	1,206,000	46.51	0.84	1,013,000
1917	57,000	19.50	1,111,500	45.48	1.13	1,256,000
1918	72,483	20.75	1,499,500	47.38	1.65	2,477,000
Mixed grains.....1915	900	31.50	28,400	45.80	0.71	20,000
1916	870	34.25	30,000	43.25	0.78	23,000
1917	840	19.50	16,380	43.29	1.10	18,000
1918	4,292	32.50	139,900	42.97	1.25	175,200
Potatoes.....1915	40,000	144.31	5,772,000	—	0.64	3,694,000
1916	39,000	192.00	7,488,000	—	0.84	6,290,000
1917	46,000	149.80	6,891,000	—	1.13	7,787,000
1918	57,272	158.50	9,077,600	—	1.00	9,077,600
Turnips, man- golds, etc. 1915	8,000	329.10	2,633,000	—	0.33	869,000
1916	7,700	411.00	3,165,000	—	0.45	1,424,000
1917	7,700	300.54	2,314,000	—	0.61	1,412,000
1918	18,507	350.00	6,477,500	—	0.58	3,757,000
Hay and clover...1915	569,000	1.89	tons 791,000	—	per ton 14.00	11,074,000
1916	574,000	1.48	850,000	—	11.27	9,563,000
1917	568,000	1.60	909,000	—	10.29	9,354,000
1918	740,637	1.50	1,111,000	—	15.30	16,998,300

I. Area, Yield, Quality and Value of Principal Field Crops in Canada, 1915-18—con.

Field Crops.	Area.	Yield per acre.	Total Yield.	Weight per measured bushel.	Average price per ton.	Total Value.
	acres.	tons.	tons.	lb.	\$	\$
New Brunswick—con.						
Fodder corn.....1915	110	7.00	770	—	2.50	1,900
1916	100	10.00	1,000	—	4.00	4,000
1917	85	9.00	770	—	6.00	4,600
1918	3,459	4.50	15,600	—	10.00	156,000
Alfalfa.....1918	1,178	1.50	1,800	—	9.00	16,200
Quebec—		bush.	bush.		per bush.	
Spring wheat.....1915	71,000	19.88	1,411,000	59.62	1.34	1,891,000
1916	64,000	15.00	960,000	57.71	1.86	1,786,000
1917	277,400	14.00	3,883,600	57.94	2.46	9,553,700
1918	365,670	17.25	6,308,000	58.82	2.28	14,382,000
Oats.....1915	1,400,000	30.13	42,182,000	36.92	0.55	23,200,000
1916	1,073,000	22.75	24,411,000	33.55	0.77	18,796,000
1917	1,492,700	21.75	32,466,200	34.34	0.92	29,868,900
1918	1,932,720	27.25	52,667,000	35.98	1.00	52,667,000
Barley.....1915	85,000	26.53	2,255,000	48.79	0.86	1,939,000
1916	72,800	20.00	1,456,000	46.67	1.15	1,674,000
1917	165,600	18.50	3,063,600	48.14	1.53	4,840,500
1918	189,202	24.00	4,551,000	48.16	1.62	7,373,000
Rye.....1915	8,700	16.71	145,000	55.90	1.12	162,000
1916	8,300	14.25	118,000	53.97	1.40	165,000
1917	22,450	16.75	376,000	53.36	1.78	669,300
1918	29,063	16.25	472,000	54.78	2.10	991,000
Peas.....1915	24,400	16.56	404,000	61.14	2.47	998,000
1916	21,600	14.00	302,000	59.95	3.22	972,000
1917	66,457	12.00	797,500	59.75	4.51	3,596,700
1918	107,386	15.50	1,650,000	60.26	4.14	1,863,000
Beans.....1915	4,700	21.89	103,000	59.38	3.17	327,000
1916	4,400	17.75	78,000	60.18	5.56	434,000
1917	55,157	15.00	827,400	59.90	7.77	6,428,800
1918	109,803	17.00	1,867,000	59.45	5.72	10,679,000
Buckwheat.....1915	104,000	24.69	2,568,000	48.17	0.84	2,157,000
1916	101,000	19.00	1,919,000	46.35	1.21	2,322,000
1917	163,577	16.50	2,699,000	46.55	1.73	4,669,300
1918	227,018	20.75	4,711,000	48.20	1.77	8,338,000
Mixed grains.....1915	101,000	29.67	2,997,000	45.44	0.73	2,188,000
1916	91,000	20.25	1,843,000	44.04	0.99	1,825,000
1917	122,819	21.25	2,609,900	44.50	1.33	3,471,200
1918	194,288	27.00	5,246,000	45.49	1.46	7,659,000
Flax.....1915	600	11.89	7,000	54.16	2.18	15,000
1916	500	10.50	5,300	54.50	2.50	13,300
1917	5,700	8.25	47,000	53.21	3.37	158,400
1918	7,357	11.25	83,000	54.66	3.74	310,000
Corn for husking.1915	16,300	31.17	508,000	56.85	1.12	569,000
1916	13,000	24.75	322,000	56.18	1.52	489,000
1917	74,339	24.25	1,802,700	56.89	2.25	4,056,000
1918	54,690	21.75	1,199,000	56.41	2.10	2,518,000

I. Area, Yield, Quality and Value of Principal Field Crops in Canada, 1915-18—con.

Field Crops.	Area.	Yield per acre.	Total Yield.	Weight per measured bushel.	Average price per bushel.	Total Value.
	acres.	bush.	bush.	lb.	\$	\$
Quebec—con.						
Potatoes.....1915	117,000	149.66	17,510,000	—	0.55	9,631,000
1916	112,000	131.00	14,672,000	—	9.97	14,232,000
1917	226,917	80.00	18,158,000	—	1.38	25,008,000
1918	264,871	147.00	38,936,000	—	0.98	38,157,000
Turnips, man- golds.....1915	10,200	308.25	3,144,000	—	0.36	1,132,000
1916	10,000	265.00	2,650,000	—	0.48	1,272,000
1917	70,192	224.51	15,759,000	—	0.59	9,298,000
1918	95,526	295.50	28,228,000	—	0.53	14,960,800
Hay and clover..1915	2,922,000	tons. 1.26	3,682,000	—	per ton. 15.89	58,507,000
1916	2,985,000	1.75	5,224,000	—	11.00	57,464,000
1917	2,961,983	1.71	5,065,000	—	9.58	48,523,000
1918	4,533,266	1.50	6,799,900	—	15.75	107,098,400
Fodder corn.....1915	34,000	8.61	293,000	—	6.39	1,872,000
1916	31,000	8.00	248,000	—	5.75	1,426,000
1917	69,030	8.50	586,800	—	5.00	2,934,000
1918	86,358	7.25	626,100	—	7.42	4,645,700
Alfalfa.....1915	2,860	2.84	8,100	—	11.78	95,000
1916	2,600	2.65	7,000	—	9.50	67,000
1917	3,818	2.26	8,600	—	8.37	72,000
1918	4,144	2.25	9,300	—	11.70	109,000
Ontario—		bush.	bush.		per bush.	
Fall wheat.....1915	972,000	28.34	27,546,000	59.41	0.93	25,618,000
1916	774,800	21.25	16,465,000	59.42	1.55	2,521,000
1917	656,500	21.50	14,114,800	59.38	2.09	29,499,000
1918	362,616	19.50	7,054,800	59.80	2.09	14,763,000
Spring wheat.....1915	121,000	22.36	2,706,000	59.41	0.96	2,598,000
1916	90,200	16.25	1,466,000	57.80	1.55	2,272,000
1917	113,000	19.50	2,203,500	59.32	2.08	4,583,300
1918	351,423	23.25	8,186,200	59.84	2.03	16,638,000
All wheat.....1915	1,093,000	27.67	30,252,000	59.41	0.93	28,216,000
1916	865,000	20.73	17,931,000	58.79	1.55	27,793,000
1917	769,500	21.25	16,318,300	59.36	2.09	34,083,200
1918	714,039	21.25	15,241,000	60.54	2.06	31,401,000
Oats.....1915	3,095,000	39.68	122,810,000	34.67	0.39	47,896,000
1916	1,991,000	25.50	50,771,000	30.30	0.64	32,493,000
1917	2,687,000	36.50	98,075,500	34.11	0.72	70,614,400
1918	2,924,468	45.00	131,752,600	35.58	0.78	102,212,000
Barley.....1915	449,000	34.23	15,369,000	47.83	0.56	8,607,000
1916	326,000	23.00	7,498,000	44.94	0.99	7,422,000
1917	361,000	31.00	11,191,000	47.20	1.16	12,981,600
1918	660,404	36.75	24,247,700	48.13	1.06	25,809,000
Rye.....1915	78,000	19.88	1,551,000	56.89	0.79	1,225,000
1916	69,000	17.50	1,208,000	55.20	1.17	1,413,000
1917	68,000	17.75	1,207,000	55.69	1.64	1,979,500
1918	112,726	16.00	1,813,000	55.65	1.55	2,818,400
Peas.....1915	169,000	17.79	3,007,000	59.86	1.54	4,631,000
1916	126,000	14.25	1,796,000	59.71	2.06	3,700,000
1917	126,000	16.75	2,110,500	59.88	3.21	6,774,700
1918	113,862	21.00	2,381,000	59.85	2.24	5,338,700

I. Area, Yield, Quality and Value of Principal Field Crops in Canada, 1915-18—con.

Field Crops.	Area.	Yield per acre.	Total Yield.	Weight per measured bushel.	Average price per bush.	Total Value.
Ontario—con.	acres.	bush.	bush.	lb.	\$	\$
Beans.....1915	37,500	16.00	600,000	59.76	3.05	1,800,000
1916	27,000	11.75	317,000	59.72	5.34	1,693,000
1917	36,000	11.75	423,000	59.42	6.79	2,872,200
1918	100,082	13.75	1,387,800	59.27	4.66	6,464,500
Buckwheat.....1915	169,000	21.81	3,686,000	48.21	0.70	2,580,000
1916	175,000	14.50	2,538,000	45.80	1.09	2,766,000
1917	162,000	18.75	3,037,500	46.69	1.37	4,161,400
1918	223,662	20.50	4,598,000	46.96	1.40	6,426,600
Mixed grains.....1915	345,000	39.91	13,769,000	44.76	0.54	7,435,000
1916	286,000	26.00	7,436,000	40.77	0.89	6,618,000
1917	295,000	37.75	11,136,300	44.99	1.12	12,472,700
1918	619,389	44.25	27,462,400	46.01	1.09	29,823,900
Flax.....1915	5,000	12.38	62,000	50.78	1.72	107,000
1916	4,500	9.25	42,000	57.17	2.78	117,000
1917	4,000	13.00	52,000	55.00	3.70	192,400
1918	15,925	12.25	196,200	56.72	3.41	670,000
Corn for husking..1915	237,000	58.48	13,860,000	55.75	0.69	9,674,000
1916	160,000	37.25	5,960,000	57.18	1.05	6,258,000
1917	160,000	37.25	5,960,000	54.58	1.72	10,251,200
1918	195,310	66.75	13,015,200	58.23	1.72	22,384,800
Potatoes.....1915	155,000	92.66	14,362,000	—	0.76	10,915,000
1916	133,000	61.00	8,113,000	—	1.28	10,385,000
1917	142,000	133.67	18,981,000	—	1.00	18,981,000
1918	166,203	116.60	19,376,000	—	1.26	24,413,000
Turnips, man- golds, etc.....1915	112,000	394.42	44,175,000	—	0.21	9,277,000
1916	97,000	211.00	20,467,000	—	0.36	7,368,000
1917	94,000	340.93	32,047,000	—	0.35	11,216,000
1918	141,001	460.25	64,896,000	—	0.32	20,767,000
Hay and clover...1915	3,082,000	1.32	4,068,000	—	per ton. 14.06	57,196,000
1916	3,059,000	2.00	6,118,000	—	11.90	72,804,000
1917	2,998,000	1.70	5,097,000	—	10.26	52,295,000
1918	3,470,036	1.32	4,596,900	—	16.50	75,848,000
Fodder corn.....1915	287,000	10.63	3,051,000	—	4.76	14,523,000
1916	248,000	6.50	1,612,000	—	4.80	7,738,000
1917	265,000	7.54	1,998,000	—	5.00	9,990,000
1918	380,946	10.35	3,944,300	—	5.73	22,601,000
Sugar beets.....1915	18,000	7.83	141,000	—	5.50	775,500
1916	15,000	4.75	71,000	—	6.20	440,000
1917	14,000	8.40	117,600	—	6.75	793,800
1918	18,000	10.00	180,000	—	10.25	1,845,000
Alfalfa.....1915	60,000	2.72	163,000	—	13.41	2,186,000
1916	56,000	3.00	168,000	—	9.75	1,638,000
1917	52,000	2.74	142,500	—	10.08	1,436,000
1918	144,010	2.28	329,000	—	15.78	5,191,000
Manitoba—		bush.	bush.		per bush.	
Fall wheat.....1915	2,705	23.29	63,000	61.33	0.90	56,400
1916	3,829	15.93	61,000	—	1.40	85,400
1917	3,860	22.25	85,900	62.33	2.20	189,000
1918	2,734	18.00	49,000	—	2.06	101,000

I. Area, Yield, Quality, and Value of Principal Field Crops in Canada, 1915-1918—con.

Field Crops.	Area.	Yield per acre.	Total Yield	Weight per measured bushel.	Average price per bush.	Total Value
	acres.	bush.	bush.	lb.	\$	\$
Manitoba—con.						
Spring wheat.....	1915 2,797,719	24.76	69,274,000	61.18	0.90	62,606,500
	1916 2,721,896	10.88	29,606,000	51.23	1.23	36,415,400
	1917 2,445,000	16.75	40,955,800	60.82	2.05	83,955,300
	1918 2,980,968	16.25	48,142,100	60.16	2.06	99,173,000
All wheat.....	1915 2,800,424	24.76	69,337,000	61.18	0.90	62,662,900
	1916 2,725,725	10.88	29,667,000	—	1.23	36,500,800
	1917 2,448,860	16.75	41,039,700	60.86	2.05	84,144,300
	1918 2,983,702	16.35	48,191,100	—	2.06	99,274,000
Oats.....	1915 1,317,365	38.52	50,750,000	36.36	0.35	17,912,800
	1916 1,443,599	33.55	48,439,000	33.05	0.49	23,735,100
	1917 1,500,000	30.25	45,375,000	27.27	0.67	30,401,300
	1918 1,714,894	31.75	54,473,500	35.21	0.71	38,676,000
Barley.....	1915 567,080	29.38	16,658,000	47.70	0.51	8,420,400
	1916 687,503	19.97	13,729,000	42.78	0.80	10,983,200
	1917 708,000	22.50	15,930,000	46.27	1.07	17,045,100
	1918 1,102,965	25.25	27,963,400	48.54	0.89	24,887,000
Rye.....	1915 11,507	18.08	208,000	57.55	0.80	167,100
	1916 30,050	18.54	557,000	56.50	1.06	590,400
	1917 37,000	17.25	638,300	54.03	1.62	1,034,000
	1918 240,469	16.25	3,935,700	73.66	1.41	5,549,000
Mixed grains.....	1915 659	33.38	22,000	43.00	0.48	10,600
	1916 1,400	32.25	45,000	42.00	0.45	20,300
	1917 1,400	31.00	43,400	—	1.25	54,250
	1918 30,309	28.25	856,000	43.50	1.03	882,000
Flax.....	1915 14,505	8.27	120,000	55.00	1.61	193,300
	1916 15,684	13.38	210,000	—	2.13	447,300
	1917 16,300	9.00	146,700	54.50	2.85	418,100
	1918 107,961	10.00	1,091,000	54.72	3.15	3,437,000
Potatoes.....	1915 29,878	85.85	2,565,000	—	0.64	1,636,100
	1916 31,987	147.22	4,709,000	—	0.61	2,872,500
	1917 34,400	105.90	3,643,000	—	0.76	2,769,000
	1918 45,000	185.00	8,325,000	—	0.56	4,662,000
Turnips, mangolds, etc.....	1915 2,658	250.19	665,000	—	0.42	282,500
	1916 3,118	145.00	452,000	—	0.49	221,500
	1917 2,500	185.12	463,000	—	0.63	292,000
	1918 9,910	251.75	2,494,800	—	0.44	1,097,700
Hay and clover.....	1915 88,478	1.02	90,000	—	9.43	848,500
	1916 77,642	1.83	142,000	—	7.80	1,107,600
	1917 75,000	1.00	75,000	—	11.11	833,300
	1918 74,000	1.00	74,000	—	16.00	1,184,000
Fodder corn.....	1915 7,591	2.63	20,000	—	6.18	123,600
	1916 9,830	2.75	27,000	—	4.67	126,000
	1917 9,800	4.86	47,600	—	7.50	357,000
	1918 12,340	5.50	67,900	—	10.50	713,000
Alfalfa.....	1915 3,671	1.36	5,000	—	12.20	61,000
	1916 4,422	2.05	12,200	—	11.83	144,300
	1917 4,400	2.07	9,100	—	13.45	122,400
	1918 3,600	2.25	8,100	—	18.00	145,800

I. Area, Yield, Quality and Value of Principal Field Crops in Canada, 1915-18—con.

Field Crops.	Area.	Yield per acre.	Total Yield.	Weight per measured bushel.	Average price per bushel.	Total Value.
	acres.	bush.	bush.	lb.	\$	\$
Saskatchewan—						
Fall wheat.....	1915 9,968	26.28	262,000	—	0.92	240,900
	1916 15,258	21.24	324,000	59.50	1.41	456,800
	1917 10,000	17.00	170,000	60.00	2.07	351,900
	1918 —	—	—	—	—	—
Spring wheat....	1915 8,919,292	25.12	224,050,000	60.75	0.91	203,647,100
	1916 9,016,851	16.33	147,235,000	55.18	1.28	188,460,800
	1917 8,263,250	14.25	117,751,300	60.92	1.95	229,615,000
	1918 9,249,260	10.00	92,493,000	60.97	1.99	184,061,000
All wheat.....	1915 8,929,260	25.12	224,312,000	—	0.91	203,888,000
	1916 9,032,109	16.34	147,559,000	55.27	1.28	188,917,600
	1917 8,273,250	14.25	117,921,300	60.91	1.95	229,966,900
	1918 —	—	—	—	—	—
Oats.....	1915 3,336,245	43.48	145,066,000	37.48	0.32	46,125,700
	1916 3,791,807	43.06	163,278,000	35.76	0.46	75,107,900
	1917 4,521,600	27.25	123,213,600	34.58	0.62	76,392,400
	1918 4,988,499	21.50	107,253,000	34.38	0.70	75,077,000
Barley.....	1915 299,993	31.74	9,523,000	47.54	0.46	4,391,300
	1916 367,207	27.00	9,916,000	46.02	0.77	7,635,300
	1917 669,900	21.00	14,067,900	46.84	1.00	14,067,900
	1918 699,296	17.00	11,888,000	46.10	0.88	10,461,000
Rye.....	1915 7,207	28.17	203,000	55.17	0.64	130,500
	1916 22,759	24.08	548,000	55.91	1.10	602,800
	1917 53,250	18.75	998,400	43.00	1.63	1,627,400
	1918 123,500	11.50	1,420,000	55.19	1.50	2,130,000
Peas.....	1915 525	15.43	8,100	61.00	1.72	13,900
	1916 1,600	32.50	52,000	60.00	2.25	117,000
	1917 2,605	17.25	44,900	60.00	4.00	179,600
	1918 4,251	20.00	85,000	60.00	1.50	128,000
Beans.....	1918 861	18.00	15,000	—	6.45	97,000
Mixed grains....	1915 2,372	25.30	60,000	48.33	0.69	41,600
	1916 14,150	35.00	495,300	40.00	0.46	227,800
	1917 39,500	32.00	1,264,000	50.00	1.25	1,580,000
	1918 23,449	21.00	492,000	45.00	1.10	541,000
Flax.....	1915 395,254	13.30	5,255,000	55.89	1.51	7,928,400
	1916 542,034	12.35	6,692,000	55.29	2.23	14,923,200
	1917 753,700	6.25	4,710,600	55.55	2.60	12,247,600
	1918 840,957	5.00	4,205,000	54.43	3.10	13,036,000
Potatoes.....	1915 34,885	110.28	3,847,000	—	0.68	2,626,900
	1916 46,989	155.76	7,319,000	—	0.62	4,537,800
	1917 67,700	133.00	9,010,000	—	0.85	7,659,000
	1918 59,793	116.25	6,950,900	—	0.96	6,672,900
Turnips, mangolds, etc.....	1915 1,245	232.93	290,000	—	0.31	91,200
	1916 1,621	252.93	410,000	—	0.57	233,700
	1917 11,104	155.55	1,727,000	—	0.91	1,572,000
	1918 9,760	225.75	2,203,300	—	0.91	2,005,000
Hay and clover...	1915 25,113	1.39	35,000	—	8.39	293,500
	1916 25,154	2.35	59,000	—	5.85	345,200
	1917 260,275	1.42	369,600	—	10.12	3,740,000
	1918 315,117	1.15	362,400	—	11.92	4,319,800

I. Area, Yield, Quality and Value of Principal Field Crops in Canada, 1915-18—con.

Field Crops.	Area.	Yield per acre.	Total Yield.	Weight per measured bushel.	Average price per ton.	Total Value.
Saskatchewan—con.	acres.	tons.	tons.	lb.	\$	\$
Fodder corn.....1915	1,877	2.40	4,500	—	6.49	29,200
1916	2,253	2.60	5,900	—	6.00	35,400
1917	15,658	2.00	31,300	—	8.00	250,400
1918	11,186	5.65	63,200	—	10.50	663,600
Alfalfa.....1915	2,620	1.83	4,800	—	9.48	45,500
1916	3,086	2.85	8,800	—	10.25	90,200
1917	9,500	1.61	15,300	—	13.40	205,000
1918	6,943	1.40	9,700	—	17.50	169,800
Alberta—		bush.	bush.		bush.	
Fall wheat.....1915	39,908	31.30	1,249,000	61.32	0.84	1,051,900
1916	18,177	30.20	549,000	61.19	1.39	763,100
1917	51,700	20.50	1,059,900	60.53	1.98	2,098,600
1918	44,065	15.00	661,000	60.00	1.92	1,269,000
Spring wheat.....1915	2,098,123	31.12	65,289,000	61.57	0.88	57,273,700
1916	2,586,798	24.95	64,539,000	58.00	1.33	85,836,900
1917	2,845,600	18.25	51,932,200	60.86	1.73	89,842,700
1918	3,848,424	6.00	23,091,000	59.94	1.92	44,335,000
All wheat.....1915	2,138,031	31.12	66,538,000	61.52	0.88	58,325,600
1916	2,604,975	24.99	65,088,000	58.45	1.33	86,600,000
1917	2,897,300	18.25	52,992,100	60.81	1.74	91,941,300
1918	3,892,489	6.00	23,752,000	59.97	1.92	45,604,000
Oats.....1915	1,827,071	45.91	83,876,000	39.76	0.31	25,532,900
1916	2,124,081	48.11	102,199,000	37.36	0.46	47,011,500
1917	2,537,900	34.00	86,288,600	37.09	0.63	54,361,800
1918	2,651,548	22.75	60,323,000	35.94	0.73	44,036,000
Barley.....1915	304,009	32.31	9,822,000	49.57	0.44	4,340,400
1916	336,586	29.04	9,774,000	46.18	0.71	6,939,500
1917	472,100	22.00	10,386,200	45.16	0.98	10,178,500
1918	470,073	16.50	7,756,000	44.17	0.97	7,523,000
Rye.....1915	15,963	23.47	374,726	56.63	0.62	232,400
1916	17,975	24.49	440,000	53.71	0.95	418,000
1917	30,880	20.50	633,000	55.25	1.50	949,500
1918	47,877	17.25	826,000	54.90	1.41	1,165,000
Peas.....1915	160	20.00	3,200	62.00	2.09	6,700
1916	650	20.00	13,000	57.50	2.25	29,300
1917	1,851	17.50	32,400	60.00	2.00	64,800
1918	1,994	18.00	36,000	60.00	1.50	54,000
Beans.....1918	763	18.00	14,000	60.00	6.45	90,000
Mixed grains.....1915	2,370	37.13	88,000	47.20	0.52	45,700
1916	4,550	30.00	136,500	36.00	0.35	47,800
1917	24,027	25.75	618,700	51.50	1.20	742,400
1918	27,989	21.50	602,000	40.00	1.15	692,000
Flax.....1915	48,000	13.96	670,000	56.37	1.44	966,700
1916	95,063	13.79	1,310,500	55.91	1.06	1,389,100
1917	139,800	7.00	978,600	54.00	2.78	2,720,500
1918	95,920	5.00	480,000	55.25	3.12	1,498,000
Potatoes.....1915	28,314	142.12	4,024,000	—	0.44	1,779,800
1916	29,216	163.71	4,783,000	—	0.53	2,535,000
1917	48,917	151.46	7,409,000	—	0.76	5,631,000
1918	44,247	70.50	3,119,400	—	1.11	3,462,500

I. Area, Yield, Quality and Value of Principal Field Crops in Canada, 1915-18.—con.

Field Crops.	Area.	Yield per acre.	Total Yield.	Weight per measured bushel.	Average price per bushel.	Total Value.
	acres.	bush.	bush.	lb.	\$	\$
Alberta—con.						
Turnips, man- 1915	1,688	235.19	397,000	—	0.29	116,000
golds, etc. 1916	1,700	279.41	475,000	—	0.61	289,800
1917	10,947	207.56	2,272,000	—	0.74	1,681,000
1918	12,506	188.50	2,357,400	—	0.66	1,555,900
		tons.	tons.		per ton.	
Hay and clover... 1915	187,404	1.31	246,000	—	7.60	1,870,600
1916	173,461	1.93	334,000	—	8.62	2,879,100
1917	493,522	1.48	730,400	—	10.92	7,976,000
1918	469,000	0.85	398,700	—	15.82	6,307,400
Fodder corn..... 1915	701	3.42	2,400	—	6.13	14,700
1916	675	2.56	1,700	—	9.00	15,300
1917	3,976	1.00	4,000	—	7.00	28,000
1918	700	5.50	3,800	—	10.50	40,000
Alfalfa..... 1915	17,207	2.15	37,000	—	7.64	282,700
1916	20,612	2.65	54,600	—	10.70	584,200
1917	31,396	2.05	64,400	—	10.73	691,000
1918	24,285	2.00	48,600	—	21.50	1,044,900
		bush.	bush.		per bush.	
British Columbia—						
Fall wheat..... 1915	6,000	33.44	200,600	60.46	0.91	182,500
1916	6,200	30.75	191,000	61.00	1.53	292,000
1917	3,240	31.75	102,850	60.67	1.92	197,500
1918	7,200	24.75	178,000	59.67	2.15	383,000
Spring wheat..... 1915	10,000	32.43	324,400	58.40	0.96	311,400
1916	9,800	31.00	304,000	59.55	1.54	468,000
1917	18,100	28.50	515,850	59.55	2.00	1,031,700
1918	29,000	22.00	638,000	60.25	2.08	1,327,000
All wheat..... 1915	16,000	32.80	525,000	59.32	0.94	493,900
1916	16,000	30.94	495,000	60.16	1.54	760,000
1917	21,340	29.00	618,700	59.94	1.99	1,229,200
1918	36,200	22.50	816,000	59.96	2.09	1,710,000
Oats..... 1915	71,000	61.84	4,390,600	36.28	0.49	2,151,400
1916	60,000	60.50	3,630,000	37.15	0.64	2,323,000
1917	60,200	53.75	3,235,800	35.50	0.90	2,912,200
1918	39,000	39.75	1,550,000	34.17	1.00	1,550,000
Barley..... 1915	2,650	40.36	106,900	49.89	0.64	68,400
1916	2,700	45.75	124,000	47.60	0.83	103,000
1917	5,500	29.25	160,900	48.67	1.28	206,000
1918	7,927	26.50	209,000	52.50	1.47	307,000
Rye..... 1918	820	30.00	25,000	60.00	2.07	52,000
Peas..... 1915	1,300	29.75	38,700	60.00	1.24	48,000
1916	1,300	33.75	44,000	61.20	1.67	73,000
1917	1,338	23.75	31,800	59.83	2.46	78,200
1918	2,193	21.50	47,000	60.00	3.00	141,000
Beans..... 1918	2,748	18.50	51,000	—	4.20	214,000
Mixed grains..... 1915	2,600	40.00	104,000	—	0.50	52,000
1916	2,600	50.00	130,000	52.00	1.25	163,000
1917	1,850	40.00	74,000	—	0.70	51,800
1918	3,228	21.50	69,000	—	1.10	76,000

I. Area, Yield, Quality and Value of Principal Field Crops in Canada, 1915-18—con.

Field Crops.	Area.	Yield per acre.	Total Yield.	Weight per measured bushel.	Average price per bushel.	Total Value.	
	acres.	bush.	bush.	lb.	\$	\$	
British Columbia—con.							
Potatoes.....1915	16,000	247.28	3,956,000	—	0.45	1,780,000	
1916	15,300	189.00	2,892,000	—	0.70	2,024,000	
1917	15,024	166.55	2,502,000	—	0.69	1,726,400	
1918	15,013	228.00	3,423,000	—	0.97	3,320,300	
Turnips, man- golds, etc.	1915	3,800	455.61	1,731,000	—	0.39	675,000
1916	3,700	500.00	1,850,000	—	0.50	925,000	
1917	4,590	344.58	1,582,000	—	0.64	1,012,000	
1918	5,758	422.00	2,429,900	—	0.60	1,457,900	
		tons	tons		per ton		
Hay and clover...1915	167,000	2.34	391,000	—	14.57	5,697,000	
1916	175,000	2.67	467,000	—	17.75	8,289,000	
1917	129,254	1.85	239,000	—	17.60	4,206,400	
1918	114,414	1.90	217,400	—	33.25	7,228,600	
Fodder corn.....1915	430	12.62	5,400	—	4.00	22,000	
1916	450	10.00	4,500	—	7.00	32,000	
1917	2,239	7.00	15,700	—	15.00	235,500	
1918	2,016	10.10	20,400	—	10.00	204,000	
Alfalfa.....1915	12,100	3.52	43,000	—	14.84	638,000	
1916	12,600	2.88	36,000	—	15.00	540,000	
1917	8,681	2.58	22,400	—	22.92	513,400	
1918	12,268	3.25	39,900	—	32.25	1,286,800	

II. Areas and Yields of Wheat, Oats, Barley and Flaxseed in the three Prairie Provinces, 1916-18.

Provinces.	1916.	1917.	1918.	1916.	1917.	1918.
	acres.	acres.	acres.	bush.	bush.	bush.
Prairie Provinces—						
Wheat.....	14,362,809	13,619,410	16,125,451	242,314,000	211,953,100	164,436,100
Oats.....	7,359,487	8,559,500	9,354,941	313,916,000	254,877,200	222,049,500
Barley.....	1,391,296	1,850,000	2,272,334	33,419,000	40,384,100	47,607,400
Flax.....	652,781	909,800	1,044,838	8,212,500	5,835,900	5,776,000
Manitoba—						
Wheat.....	2,725,725	2,448,860	2,983,702	29,667,000	41,039,700	48,191,100
Oats.....	1,443,599	1,500,000	1,714,894	48,439,000	45,375,000	54,473,500
Barley.....	687,503	708,000	1,102,965	13,729,000	15,930,000	27,963,400
Flax.....	15,684	16,300	107,961	210,000	146,700	1,091,000
Saskatchewan						
Wheat.....	9,032,109	8,273,250	9,249,260	147,559,000	117,921,300	92,493,000
Oats.....	3,791,807	4,521,600	4,988,499	163,273,000	123,213,600	107,253,000
Barley.....	367,207	669,900	699,296	9,916,000	14,067,900	11,888,000
Flax.....	542,034	753,700	840,957	6,692,000	4,710,600	4,205,000
Alberta—						
Wheat.....	2,604,975	2,897,300	3,892,489	65,088,000	52,992,100	23,752,000
Oats.....	2,124,081	2,537,900	2,651,548	102,199,000	86,288,600	60,323,000
Barley.....	336,586	472,100	470,073	9,774,000	10,386,200	7,756,000
Flax.....	95,063	139,800	95,920	1,310,500	978,600	480,000

III. Total Areas and Values of Field Crops in Canada, 1913-18.

AREAS.

Provinces.	1913.	1914.	1915.	1916.	1917.	1918.
	acres.	acres.	acres.	acres.	acres.	acres.
Canada.....	35,374,930	33,436,675	39,140,460	38,930,333	42,602,288	51,427,190
P. E. Island.....	456,970	461,510	481,930	485,910	491,210	448,180
Nova Scotia.....	711,630	693,860	727,260	746,580	752,980	910,387
New Brunswick.....	906,130	904,055	893,800	889,220	888,125	1,188,200
Quebec.....	4,898,800	4,863,850	4,901,760	4,590,200	5,778,139	8,201,362
Ontario.....	9,200,000	8,973,700	9,391,500	7,637,500	8,233,500	10,000,063
Manitoba.....	4,965,000	4,671,790	4,843,816	5,030,960	4,837,660	6,325,150
Saskatchewan.....	10,307,600	9,238,000	13,036,596	13,850,769	14,678,042	16,332,872
Alberta.....	3,690,100	3,369,270	4,570,918	5,409,544	6,692,616	7,739,391
British Columbia.....	238,700	260,640	292,880	289,650	250,016	241,585

VALUES.

	\$	\$	\$	\$	\$	\$
Canada.....	552,771,500	638,580,300	825,370,600	886,494,900	1,144,636,450	1,367,909,970
P. E. Island.....	9,555,500	11,544,000	10,930,400	14,124,100	16,530,000	16,277,800
Nova Scotia.....	17,132,900	21,969,700	19,556,700	22,369,800	23,313,400	42,486,200
New Brunswick.....	17,965,100	20,045,100	20,092,600	22,924,200	24,404,200	42,861,270
Quebec.....	88,589,000	99,279,000	104,683,000	102,937,300	153,197,900	271,750,900
Ontario.....	167,835,000	196,220,000	207,043,500	190,646,000	251,095,100	384,013,900
Manitoba.....	64,557,000	65,528,400	92,318,800	76,749,000	137,470,750	180,507,500
Saskatchewan.....	129,376,000	152,751,500	265,605,700	292,773,900	349,488,200	299,362,100
Alberta.....	46,712,000	59,779,600	93,514,200	148,738,600	176,965,800	113,072,700
British Columbia.....	11,069,000	11,463,000	11,625,700	15,232,000	12,171,100	17,547,600

REPORTS ON THE CONDITION OF LIVE STOCK.

Maritime Provinces.—Throughout the Maritime Provinces the autumn was favourable for late pasturing, and live stock went into winter quarters in good condition. Reports vary concerning fodder. Hay was scarce generally and prices ranged from \$15 to \$30 per ton. Straw was more plentiful, but in some instances had suffered from the heavy rains of the harvest season. Other reports state that, although hay is scarce and dear, other substances such as straw, oats, turnips, etc., are plentiful and sufficient to carry through the winter.

Quebec.—The majority of crop correspondents report all live stock as in good, healthy condition, and that the supply of fodder was quite sufficient for the winter. In several instances, mention is made of cattle looking lean, when placed in winter quarters, caused by poor pasture during the cold, wet weather of September and October. Hay is very scarce and high priced, selling as high as \$25 a ton. There is a good quantity of straw, but it is of poor quality. Several reports state that farmers sold or slaughtered quite a few of their horned cattle, fearing shortage of feed.

Ontario.—The continuous wet weather during September and October did considerable damage to hay and straw in most parts of the province. Hay had to be shipped in and was being sold as high

as \$25 per ton. Most farmers report sufficient straw and other fodder to last the remainder of the winter. The prevailing fine weather of December and January helped greatly. With but few exceptions, live stock were in good condition. Sheep were being raised more extensively.

Manitoba.—Although hay has been very scarce, farmers in general have sufficient straw and other substances for the winter's use. Mild weather has been exceptionally favourable for the saving of fodder. All live stock are in excellent condition and several reports refer to an increase in stock.

Saskatchewan.—Live stock went into winter quarters in excellent condition. A few cases of blackleg among the cattle have been reported. Hay has been very scarce and dear, but if the mild weather continues there will be sufficient straw, oats and roots for wintering the stock.

Alberta.—In all parts of Alberta the weather has been so extremely mild that live stock are still running on the range and are in splendid condition. In some sections hay has had to be shipped in from other parts of the country, but most reports state that feed will be sufficient to last the winter. There has been a considerable shortage of water throughout the province and very little snow.

British Columbia.—Live stock came off the ranges in good condition, owing to the long, open fall and early winter, but many farmers are killing off cattle. There is sufficient feed to last the winter, although hay is very scarce. Sheep raising is increasing throughout the province.

DOMINION EXPERIMENTAL FARMS AND STATIONS.

Central Farm, Ottawa.—December has not been so cold as a year ago, and the sunshine recorded is much less. The highest temperature registered is 42·6, the lowest —4·8, and the mean for the month is 19·67; while for this time in 1917 the maximum was 37·8, the minimum —30·8, and the mean temperature 6·83. The precipitation totals 3·34 inches, made up of 1·34 inch of rain and 20 inches of snow, while for the corresponding period a year ago the precipitation amounted to 2·96 inches, which comprised 0·26 of an inch of rain and a snowfall of 27 inches. The bright sunshine averages 2·93 hours a day, compared with 4·11 hours daily in December, 1917.

The new horticultural storage building, 65 ft. by 25 ft., on which the contractor started work well on in November, is now well advanced, and it is probable that the structure will be completed in the course of a few weeks. This building is to be used for drying vegetable seed and storing vegetables, nursery stock and implements; and on the main floor a room is being provided for the carrying on of the experiments in the canning of fruits and vegetables.

Charlottetown, P.E.I.—R. D. L. Bligh, Officer in Charge, reports: "The weather during December has been normal. The mean

temperature is 25.02, as compared with 19.79 for the same period in 1917. Snow has been recorded on thirteen days, aggregating 31.5 inches, the heaviest storm being 6.5 inches on the 9th and 9 inches on the 29th. There has been good sleighing during the greater part of the month. Heavy rains, amounting to 1 inch and 1.07 inch, fell on the 15th and 25th, respectively. The first of these rains removed the greater part of the snow, while the latter started with a heavy sleet, which would have caused considerable damage to the fruit trees and lines of communication had not the weather moderated and removed the ice before any damage had been done. The precipitation of the month totals 5.26 inches, which fell on sixteen days. The sunshine amounts to only 49.7 hours, fifteen days during the month being without sunshine."

Kentville, N.S.—W. S. Blair, Superintendent, reports: "December has been unusually mild, the temperature going below 15 only four times during the month, the lowest being 3 on the 8th. Eleven inches of snow fell during the first half of the month, but, as it quickly went off, there was little sleighing. There was 0.34 of an inch of rain recorded on the 15th and 1.01 inch on the 25th; also 8 inches of snow on the 29th, which made good sleighing. Frost had sufficiently gone out of the ground to make ploughing possible on the 23rd, at which date a farmer was noticed ploughing on a dry-sod area."

Nappan, N.S.—W. W. Baird, Superintendent reports: "December has been much milder than the corresponding period a year ago, the mean temperature being 23.32 as against 15.64 in 1917. The precipitation amounts to 2.62 inches, while a year ago it was 4.4 inches. The sunshine averages 1.85 hour a day, compared with 2.1 hours a day in 1917. The market for all farm produce, possibly excepting beef, has been good. There has been an exceptionally brisk demand for the first and second grades of hay, No. 1 and extra No. 2 bringing \$25 a ton f.o.b. cars.

Fredericton, N.B.—W. W. Hubbard, Superintendent, reports:—"December gave a very favourable record, for, while the hours of sunshine, 76.65, do not indicate quite as much bright weather as the 43-year average of 98 hours, the precipitation is very much below normal, being only 1.19 inch, against an average of 3.5 inches. The first snow came on the 4th and 5th, and, although it amounted to only about two inches, it made fair sleighing, which continued until a thaw uncovered the ground on the 14th. Good sleighing began again on the 25th. Temperatures have been moderate throughout, the mean, 20.2, being slightly below the average, but far above December, 1917, when the average was only 9.8. The weather conditions have been favourable for live stock and easy on feedstuffs, a great advantage with hay at \$20 a ton, and the price of grain feeds almost out of reach. At the Station farm, good progress has been made in getting manure spread on the land and cleaning up stones, etc. For lumbering operations, also, conditions have been very favourable, except for the prevalence of influenza in the camps. Some operators have been stopped completely by the disease."

St. Anne de la Pocatière, Que.—Jos. Begin, Superintendent:—
“The temperatures recorded during December have ranged much higher than during the corresponding period of 1917, the highest being 42.5, the lowest —4.2 and the mean 16, compared with extremes of 39.6, —28.8 and a mean temperature of 14.2 a year ago. The precipitation totals 0.8 of an inch, made up entirely of snow. The bright sunshine recorded averages 2.08 hours a day, against 2.93 hours a day in 1917. Permanent sleighing began on the 25th, though some snow had fallen early in the month. The ground was fairly dry when the winter set in about the middle of the month, and it is now well protected by an even coat of snow. Baled hay and straw sell at the highest price recorded for years in this district. The supply of good hay is somewhat limited this year. Grain and mill feeds are being imported at very costly prices.”

Cap Rouge, Que.—G. A. Langelier, Superintendent, reports:—
“December has been warmer, duller, and has had more precipitation than the average of the corresponding month for the last six years, the figures being respectively 18.47 and 16.27 for the mean temperature, 47.2 and 52.5 hours of sunshine, and 4.56 and 2.97 inches of precipitation. Farmers are taking advantage of the fine roads to haul hay and straw, which are selling at very high prices; these high prices will no doubt hurt animal husbandry, as less cattle, sheep and horses are likely to be kept. At the Station the care of live stock and poultry has been the main work. Three French Canadian colts were shipped to Ontario and one to Nova Scotia, being disposed of at reasonable, though remunerative, prices. A regular system of pedigree breeding was started with the 300 odd Barred Rock fowl, and Cap Rouge will soon be able to sell and distribute cockerels which will improve the farm flocks of the district.”

Lennoxville, Que.—J. A. McClary, Superintendent, reports:—
“The weather during December has been quite mild compared with former years, and the St. Francis river, which runs through the Station, is still open up to the 31st, while last year it was frozen over by November 26th, and remained so throughout the winter. The thermometer has dropped below zero only six times during the month, while it registered below zero on twenty-one days during the corresponding period of 1917. The highest temperature recorded is 48, the lowest —18, and the mean temperature is 20.75, compared with a maximum of 40, a minimum of —45 and a mean of 5.74 a year ago. The bright sunshine amounts to only 34.6 hours, which is the least recorded since the Station was started. The precipitation amounts to 2.89 inches, while a year ago it aggregated 2.55 inches. The mild weather has helped the farmers out considerably in regard to feed for stock and as regards fuel. On account of the very unfavourable summer and fall, there is not the number of live stock being kept in the district this winter that there had been during the last two years, for the corn crop for silage purposes, which is depended upon so much at the present time by the farmers in this district as live stock feed, is very poor and much below the average.”

Brandon, Man.—W. C. McKillican, Superintendent, reports:—“December has been an unusually fine month, the mildest since 1913. There has been scarcely any below-zero weather until the last few days of the month, when a severe cold snap started. The snowfall, also, has been light, totalling only five inches. Sleighs have been in use throughout the month, but sleighing is poor. The mild weather has been of much help in wintering cattle, as the feed supply is low.”

Indian Head, Sask.—W. H. Gibson, Superintendent, reports:—“December has been exceptionally fine and mild, the first cold snap coming on the 30th, when the thermometer dropped suddenly to —18, and falling to —33 on the 31st. Nine inches of snow fell during the month, and, as there was very little wind, this remained on the roads, making excellent sleighing. Very little teaming has been done, as the bulk of the crop was delivered to the elevators during November.”

Rosthern, Sask.—Wm. A. Munro, Superintendent, reports:—“The average temperature for December is 27 degrees higher than for the corresponding month in 1917, and there has not been sufficient snow at any time for good sleighing, as a consequence of which the anticipated difficulty of wintering stock was greatly reduced, cattle being able to ‘rustle’ up to the New Year. Two car lots of feeding steers at the Experimental Station are making satisfactory gains on oat and barley chop and straw. Forty spring pigs, of May and June litters, were brought in from field conditions to a corral with a shed at one end and given access to water and a self-feeder. They were thrifty but not fat when brought in, and are finishing rapidly.”

Scott, Sask.—M. J. Tinline, Acting Superintendent, reports:—“The weather during December has been unusually fine, but it has become colder and more stormy the last three days. The snowfall only totals 2.75 inches, which is very little more than half the average amount recorded for this month in previous years. The hours of sunshine recorded total more than the average. Live stock continue to thrive well out of doors, thus affording a saving in feed that is most welcome to stockmen. At the Station, hauling feed for the stock has engaged a good deal of attention.”

Lacombe, Alberta.—G. H. Hutton, Superintendent, reports:—“The weather during December has been moderate, and there has been no snow for sleighing until the close of the month, when a few sleighs are in use, but the sleighing, even by the 31st, cannot be said to be good. It is hoped that there will be a fair fall of snow throughout the balance of the winter, as the moisture supply this fall has been away below normal. Live stock is in good, thrifty condition, the moderate weather having been an effective feature in conserving feed. However, the demand for all classes of breeding stock is not as keen as it was at this time a year ago. The flock of breeding ewes at this Station is doing particularly well.”

Lethbridge, Alberta.—W. H. Fairfield, Superintendent, reports:—“The weather during December has been particularly mild, the 10th,

30th and 31st being the only days upon which the thermometer touched zero or lower. There was a very light fall of snow on the 3rd and another on the 30th; the earlier one disappeared in a day or so, so that for practically the entire month the ground has been absolutely bare of snow. This, combined with the mild weather, has been a great benefit to the live-stock situation, as no feeding of hay to range stock has been necessary during the month. At the Station the time of the men has been occupied chiefly with the cleaning of grain and the usual winter feeding experiments with stock."

Invermere, B.C.—G. E. Parham, Superintendent, reports:—"The weather during December has been generally mild, the mean temperature being about five degrees higher than in 1917. Bright sunshine has been recorded on only 12 days, totalling 28.4 hours, or 10 hours less than in the previous December. Sleighing commenced on the 4th, following the first fall of snow this season; the snowfall up to the end of the year amounts to 12 inches, but the bulk of it has been dispersed by warm spells and Chinook winds. During the first week of the month, cattle ranging on the benches were brought in in fine condition; but the feed is abundant for range horses, which appear to be entering the winter under very favourable conditions. At the Experimental Station, the usual winter work has been continued. Experiments in winter feeding and fattening of poultry and turkeys for the Christmas market have been carried out, and a ready sale was found locally for all produce."

Summerland, B.C.—R. H. Helmer, Superintendent, reports:—"December has been very fine and favourable for outdoor work. At the station ploughing was done up to the 19th, and road building went on up to the end of the month. The snow which fell, went immediately, and a fall is now needed to cover up the land before the severe frosts of January come. Hay in the district is holding out, and live stock are in good condition. All crops in this section have been good this year. The apple yield, owing to the fruit growing to a larger size than usual, has exceeded expectations. One acre of Yellow Newtowns planted 20 feet apart, yielded over one thousand orchard boxes of No. 1 fruit. Potatoes in the valley have not been quite so satisfactory as had been hoped."

Agassiz, B.C.—W. H. Hicks, in charge, reports:—"Generally speaking, December has been a wet month, although the precipitation is 1.4 inch less than in December, 1917. The first nineteen days were comparatively wet and warm, while the remainder of the month has been dry and cool. The lowest temperature recorded is 24, and frost occurred on just fifteen days during the month. The bright sunshine totals 56 hours, as compared with 15.7 hours a year ago. The snowfall amounts to only 3 inches. The weather assisted greatly in the saving of fuel and feed. Live stock in the district is healthy, but somewhat thin, as concentrates are expensive and hard to obtain. Dairy and poultry products are bringing good prices, but there is not the demand for hogs and cattle experienced earlier in the year."

Sidney, Vancouver Island, B.C.—Lionel Stevenson, Superintendent, reports:—"Early December was characterized by heavy rains, while the two closing weeks have been fine, dry and frosty. Ploughing has continued throughout the month. In the district some drainage work and road improvement have been accomplished. There has been but little movement in live stock, and more grain feeds have been shipped in than usual. Some swine in various parts of the district have been killed through feeding oat hull feeds as prepared by milling companies. Poultry products have been abundant and in good demand at high prices."

Meteorological Record for December, 1918.

The records of temperature, precipitation, and sunshine at the several Experimental Farms and Stations for the month of December are given in the following table:—

Experimental Farm or Station at—	Degrees of Temperature F.			Precipitation in inches.	Hours of Sunshine.	
	High-est.	Low-est.	Mean.		Pos-sible.	Actual.
Ottawa, Ont.....	42.6	— 4.8	19.67	3.34	272	90.9
Charlottetown, P.E.I.....	47.0	5.0	25.02	5.26	269	49.7
Kentville, N.S.....	57.0	3.0	27.32	3.25	274	56.2
Nappan, N.S.....	49.0	— 3.0	23.32	2.62	271	57.2
Fredericton, N.B.....	48.0	— 6.0	20.20	1.19	270	76.7
St. Anne de la Pocatière, Que.....	42.5	— 4.2	16.00	0.80	264	64.6
Cap Rouge, Que.....	40.0	— 5.1	18.47	4.56	264	47.2
Lennoxville, Que.....	48.0	— 18.0	20.75	2.89	272	34.6
Brandon, Man.....	36.4	— 36.0	10.00	0.50	254	52.5
Indian Head, Sask.....	37.0	— 33.0	14.29	0.90	248	32.8
Rosthern, Sask.....	39.5	— 27.3	12.45	0.55	233	59.1
Scott, Sask.....	38.0	— 28.8	12.73	0.27	238	96.3
Lacombe, Alberta.....	45.8	— 8.1	16.24	0.73	238	60.2
Lethbridge, Alberta.....	53.0	— 11.0	29.20	0.46	254	79.0
Invermere, B.C.....	42.0	— 12.0	20.00	1.53	251	28.4
Summerland, B.C.....	48.0	16.0	31.64	0.60	253	46.9
Agassiz, B.C.....	50.0	24.0	38.95	13.39	256	56.0
Sidney, Vancouver Island, B.C.....	51.0	29.0	38.86	6.77	259	59.3

Ottawa, January 15, 1919.

J. H. GRISDALE,
Director Experimental Farms.

CROP REPORTS FROM OTHER COUNTRIES.

England and Wales.—The Board of Agriculture reports (January 1) that the wet weather which prevailed very generally during December has hindered field work more or less throughout the country. Of the area intended for wheat it is estimated that some three-fourths has already been sown. As compared with last year, the area already placed under wheat varies considerably; in the north and parts of the eastern counties this work is much more backward, but in the midlands and west it is generally as forward as last year, or more so.

On the whole, there was probably a little less actually in the ground. Sowing of winter oats and rye is also rather less, but the area of beans seems about equal to last year. The young crops are everywhere quite satisfactory, except on certain heavy and low-lying land. Seeds are mostly reported to be a strong, healthy plant in the eastern counties, but elsewhere they are more variable, promising crops being often interspersed with patchy fields. Turnips and swedes are generally of satisfactory quality, though there are a few reports from the northwestern districts to the effect that they are not always keeping well. Ewes are generally healthy and in satisfactory condition; the earliest in Dorset are reported to be lambing well. Other live stock have maintained fair condition, considering the frequent rains. The mild weather has allowed of their being kept late on the pastures, which has helped to conserve the fodders; so that prospects of winter keep have somewhat improved during the month. Labour is still in short supply, but a slight improvement may be noted, and several districts report that it has been sufficient for requirements. Owing to the lateness of the autumn, it is expected that the demand for labour to prepare the land for the green crops next spring may be rather greater than usual.

India.—According to the second rice forecast of the Indian Government, issued December 31, 1918, the area under rice for the season of 1918–19 is 74,363,000 acres, a decrease of 3,624,000 acres, or 5 p.c., as compared with 1917–18. The estimated yield for seven provinces (the estimates for Madras and the United Provinces being not yet available) is 19,005,000 tons, as compared with 26,739,000 tons in 1917–18.

Argentina.—According to Broomhall's Corn Trade News of January 14, 1919, the official estimate of the Argentina wheat crop of 1918–19 is 188 million bushels, whilst there is also a stock of the old crop of 40,160,000 bushels. This gives a total of about 228 million bushels, from which 66,400,000 bushels must be deducted for home, food and seed requirements, leaving roundly about 160 million bushels available for export. The oat crop is estimated at 36,800,000 bushels.

INTERNATIONAL INSTITUTE OF AGRICULTURE.

The December, 1918, issue of the Monthly Bulletin of Agricultural and Commercial Statistics gives the following revised figures of the cereal production in 1918 of Great Britain and Sweden:—

Country.	Wheat.	Rye.	Barley.	Oats.
	bush.	bush.	bush.	bush.
England and Wales.....	84,271,000	—	50,703,000	131,554,000
Scotland.....	3,216,000	—	5,741,000	59,253,000
Sweden (Winter Wheat).....	9,013,000	25,416,000	13,116,000	62,067,000
Sweden (Spring Wheat).....	1,378,000	—	—	—

The production of corn in Japan is reported as 3,757,000 bushels, and of potatoes in Sweden as 68,321,000 bushels.

Including the foregoing revisions and additions, the cereal production in 1918 of the northern hemisphere and in 1917-18 of the southern hemisphere stands as follows:—

Crop.	Northern Hemisphere.		Southern Hemisphere.		Total.	
	No. of countries.	000 bush.	No. of countries.	000 bush.	No. of countries.	000 bush.
Wheat.....	15	1,986,039	5	369,179	20	2,355,218
Rye.....	9	158,877	—	—	9	158,877
Barley.....	14	588,432	1	831	15	589,263
Oats.....	12	2,319,584	2	80,728	14	2,400,312
Corn.....	6	2,861,014	2	31,140	8	2,892,154

The same issue records by months the imports of cereals into Great Britain, France and Greece, for the twelve months ended August 31, 1918, according to a statement received from the Inter-Allied Food Council in London. The totals imported into Great Britain during the year were, in bushels, as follows: Wheat and flour 128,888,000, rye 7,457,000, barley 20,405,000, oats 30,938,000, corn 35,018,000, rice 25,141,000. The annual imports of wheat and flour into the United Kingdom just before the war were about 230 million bushels, and the home production was about 58 million bushels; so that apparently in 1918 the difference was met by economies in consumption, the substitution of other grains for wheat and by increased home production. In 1918 the home production of wheat in the United Kingdom was 93.1 million bushels, as against 64,322,000 bushels in 1917. For France, the imports for the year ended August 31, 1918, were in bushels: Wheat and flour 81,415,000, rye 1,131,000, barley 6,897,000, oats 28,694,000, corn 6,978,000 and rice 9,005,000.

FARM ANIMALS IN THE UNITED STATES, 1918-19.

The Crop Reporting Board of the United States Department of Agriculture issued (January 21) the following estimates of the numbers and values of live stock on farms and ranges of the United States on January 1, 1919, as compared with the revised figures for January 1, 1918.

Farm Animals.	1918.	1919.	1918.	1919.	1918.	1919.
	No.	No.	\$ per head.	\$ per head.	\$	\$
Horses.....	21,555,000	21,534,000	104.24	98.48	2,246,970,000	2,120,709,000
Mules.....	4,873,000	4,925,000	128.81	135.59	627,679,000	667,767,000
Milch cows.....	23,310,000	23,467,000	70.54	78.24	1,644,231,000	1,836,055,000
Other cattle.....	44,112,000	44,399,000	40.88	44.16	1,803,482,000	1,960,670,000
Sheep.....	48,603,000	49,863,000	11.82	11.61	574,575,000	579,016,000
Swine.....	70,978,000	75,587,000	19.54	22.04	1,387,261,000	1,665,987,000

The number of animals not on farms, i.e., in cities and villages, is not estimated yearly, but their number in 1910, as reported by the Census, was: horses, 3,183,000; mules, 270,000; cattle, 1,879,000; sheep, 391,000; swine, 1,288,000. The following changes in farm animals, compared with January 1, 1918, are indicated. In numbers, horses decreased 21,000, mules increased 52,000, milch cows increased 157,000, other cattle increased 287,000, sheep increased 1,260,000, swine increased 4,609,000. In average value per head, horses decreased \$5.76, mules increased \$6.78, milch cows increased \$7.70, other cattle increased \$3.28, sheep decreased \$0.21, swine increased \$2.50. In total value, horses decreased \$126,261,000, mules increased \$40,088,000, milch cows increased \$191,824,000, other cattle increased \$157,188,000, sheep increased \$4,441,000 and swine increased \$278,726,000. The total value on January 1, 1919, of all animals enumerated above was \$8,830,204,000, as compared with \$8,284,198,000 on January 1, 1918, an increase of \$546,006,000, or 6.6 p.c.

AGRICULTURAL STATISTICS OF 1917.

The Dominion Bureau of Statistics has issued as Part I of the Census of Industry, 1917, a report on the Agricultural Statistics of Canada for 1917. This report includes not only particulars of the area, yield, and value of the field crops of 1917, but also for the first time brings together in conveniently accessible form similar comparative data for all the principal crops during the last ten years. For all the field crops of Canada complete statistics of area, yield, quality and value are given for the three years 1915, 1916 and 1917. For wheat, oats, barley, flax, potatoes, hay and clover and alfalfa, continuous annual estimates of area, yield and value, for Canada and by provinces, are given for the ten years 1908 to 1917.

Weekly prices for 1917 and monthly averages for 1914-17 at Winnipeg and Fort William are given for wheat, oats, barley and flax, and monthly averages from 1913 to 1917 are given for Canadian wheat and oats in British markets. The average prices of British-grown wheat, barley and oats are also given for the years 1914-17. The average wages of farm help are given for the years 1914-17. The estimated numbers of farm live stock in Canada from 1908 to 1917 are recorded by provinces, and the values from 1914 to 1917. The weather of the year 1917, showing temperature and precipitation, compared with normal averages, is followed by the exports of wheat, oats, barley and flaxseed for the years 1901 to 1917, and by a selection of the principal agricultural exports and imports by countries for the years 1913 to 1917.

The principal agricultural statistics of other countries, including cereals, potatoes and live stock, are given for the years 1916 and 1917 (crops) and for the years nearest to 1907 and 1916 (live stock).

The tables are preceded by an introduction explaining the nature of the statistics available and summarizing the data in respect of

area, yield and value. This part of the report includes two diagrams which illustrate graphically (1) the increase in the acreage, yield and value of wheat during the ten years 1908 to 1917 and (2) the exports of wheat from the beginning of the present century. The first diagram shows that in 1908 the production of wheat was 112.4 million bushels of the value of 91.2 million dollars from 6.6 million acres; whilst in 1917 the production was 233.7 million bushels, of the value of 453 million dollars from 14.7 million acres. The second diagram shows that the exports of wheat which were 14.8 million bushels in 1901 were 289.8 million bushels in 1916 and 170.8 million bushels in 1917. During the present century, Canada has, in fact, risen to be one of the principal wheat-exporting countries of the world, ranking closely in this respect with the United States, British India and Argentina.

Finally, an attempt is made to estimate the gross total value of the annual agricultural production of Canada. This for the year 1917 is placed at \$1,621,028,000, of which field crops amount to \$1,144,637,000. Adding for land \$2,792,229,000, for buildings \$927,548,000, for implements \$387,079,000 and for live stock \$1,102,261,000, the total agricultural wealth of the Dominion of Canada for the year 1917 is estimated at \$6,830,145,000.

Copies of the report are now available for distribution, and will be sent by the Dominion Bureau of Statistics to applicants interested, so long as the supply may last.

THE WEATHER DURING DECEMBER 1918.

The Dominion Meteorological Office reports that the mean temperature was above average throughout Canada, excepting only British Columbia and the extreme eastern portion of Nova Scotia. The largest positive departures, amounting to from 4° to 8°, occurred in Saskatchewan, and from 4° to 6° in Manitoba and northwest Ontario, whence the excess diminished gradually eastward over Quebec to about 1° over most of New Brunswick and western Nova Scotia. The negative departures were from 1° to 3° near the coast in British Columbia, and about 1° in Cape Breton. The precipitation did not differ greatly from average in any part of the Dominion, but such differences as occurred were mostly positive. In British Columbia it was almost wholly rain at lower levels, and it was only at high levels that there was much snow. In the western provinces the snowfall was nearly average, and there was little, if any, rain. From Ontario eastward to the Maritime Provinces rain predominated, and such snowfalls as occurred were quite moderate. On the 31st of the month there was a light snow covering over almost the whole Dominion, including the northern part of Ontario and Quebec, where there is much less than usual at this date.

PRICES OF AGRICULTURAL PRODUCE.

I. Weekly Range of Prices per bushel of Canadian Grain at Winnipeg and Fort William, 1919.

	Jan. 4.		Jan. 11.		Jan. 18.		Jan. 25.		Feb. 1..	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—										
No. 1 Nor.....	2 24½	—	2 24½	—	2 24½	—	2 24½	—	2 24½	—
No. 2 Nor.....	2 21½	—	2 21½	—	2 21½	—	2 21½	—	2 21½	—
No. 3 Nor.....	2 17½	—	2 17½	—	2 17½	—	2 17½	—	2 17½	—
No. 4.....	2 11½	—	2 11½	—	2 11½	—	2 11½	—	2 11½	—
No. 5.....	1 99½	—	1 99½	—	1 99½	—	1 99½	—	1 99½	—
No. 6.....	1 90½	—	1 90½	—	1 90½	—	1 90½	—	1 90½	—
Feed.....	1 65	—	1 65	—	1 65	—	1 65	—	1 62	—1 65
Oats—										
No. 2 C.W.....	0 74½—0 76½		0 74½—0 78½		0 70—0 73½		0 64½—0 70½		0 63—0 65	
No. 3 C.W.....	0 71—0 72½		0 70½—0 74½		0 67—0 69½		0 59½—0 67½		0 57½—0 59½	
No. 1 Feed Ex.....	0 71½—0 73½		0 71½—0 75½		0 67½—0 70½		0 61½—0 67½		0 60—0 61½	
No. 1 Feed.....	0 71—0 72½		0 70½—0 74½		0 65—0 69½		0 58½—0 65½		0 56½—0 58½	
No. 2 Feed.....	0 66—0 67½		0 65½—0 69½		0 62—0 64½		0 54½—0 62½		0 53½—0 54½	
Barley—										
No. 3 C.W.....	0 97½—1 01½		0 94½—1 01½		0 85½—0 91½		0 75—0 85½		0 75½—0 79½	
No. 4 C.W.....	0 92½—0 96½		0 89½—0 96½		0 80½—0 86½		0 70—0 80½		0 70½—0 74½	
Rejected.....	0 80½—0 85½		0 79½—0 85½		0 71—0 76		0 61—0 71		0 60½—0 66½	
Feed.....	0 78½—0 83½		0 77½—0 83½		0 69—0 74		0 60—0 69½		0 59½—0 66½	
Flax—										
No. 1 N.W.C.....	3 29—3 34		3 18½—3 35		3 03½—3 19½		2 93—3 02½		2 91½—3 02	
No. 2 C.W.....	3 25—3 30		3 14½—3 31		2 98½—3 15		2 88½—2 98½		2 87½—2 98	
No. 3 C.W.....	3 06—3 08		2 98½—3 14½		2 82½—2 99		2 71—2 81½		2 69½—2 80	

II. Monthly Range of Prices per bushel of Grain at Selected Markets in the United States, 1918.

(From the Monthly Crop Report of the U.S. Dept. of Agriculture.)

Grade and Market.	September.		October.		November.		December.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat, Red Winter, No. 2—								
St. Louis.....	2 21	—2 26½	2 21	—2 24½	2 21	—2 28	2 25½	—2 48½
Chicago.....	2 23	—2 25	2 23	—2 25	2 23	—2 26½	2 26½	—2 42
New York (f.o.b. afloat).....	2 38	—	2 38	—	2 38	—	2 38	—
Corn, No. 2 mixed—								
St. Louis.....	1 63	—1 70	1 45	—1 50	1 42	—1 47	1 45	—1 56
Corn No. 2—								
Chicago.....	1 40	—1 65	1 35	—1 45	1 30	—1 45	1 35	—1 55
Oats, No. 2—								
St. Louis.....	0 69½	—0 74	0 67	—0 71	0 67	—0 73	0 71	—0 76
Chicago.....	0 70½	—0 73½	0 66½	—0 71½	0 67½	—0 77½	0 68	—0 74½
Rye No. 2—								
Chicago.....	1 58	—1 68	1 61	—1 64	1 60½	—1 75½	1 54	—1 64

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WEEKLY BULLETIN

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Containing Reports of Trade Commissioners and General Trade Information.

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The German War and its relation to Canadian Trade.

Handbook for Export to South America.

Commercial Intelligence Service.

Toy Making in Canada.

The Timber Import Trade of Australia.

EXPORT DIRECTORY OF CANADA.

CANADA AND THE BRITISH WEST INDIES.

CANADA, THE COUNTRY OF THE TWENTIETH CENTURY.

GRAIN INSPECTION IN CANADA.

LIST OF LICENSED ELEVATORS.

RULES AND REGULATIONS OF THE BOARD OF GRAIN
COMMISSIONERS.

REPORT OF THE BOARD OF GRAIN COMMISSIONERS.

MAIL SUBSIDIES AND STEAMSHIP SUBVENTIONS.

PATENT OFFICE RECORD (Monthly).

RULES AND FORMS OF THE CANADIAN PATENT OFFICE.

FOOD INSPECTION BULLETINS.

For List of Publications of the Dominion Bureau of Statistics, see page iv of cover.

PUBLICATIONS

OF THE

DOMINION BUREAU OF STATISTICS.

ANNUAL REPORT OF THE TRADE OF CANADA.

MONTHLY REPORT OF THE TRADE OF CANADA.

THE CANADA YEAR BOOK, 1916-17, with Map of Canada and Newfoundland, a Statistical Summary of the Progress of Canada and numerous illustrations pp. 1-xvi, 1-720.

Contents: I Natural Resources of the Dominion of Canada, by WATSON GRIFFIN, Department of Trade and Commerce, Ottawa, with 10 illustrations; II Physical Characteristics of Canada, including Geographical Features; Economic Geology in Canada, 1917, by WYATT MALCOLM, Department of Mines, Ottawa; III Area and Population; IV Education; V Climate and Meteorology, with Diagram; VI Production; VII Trade and Commerce; VIII Transportation and Communications; IX Labour; X Finance; XI Administration; XII Legislation and Principal Events of the Years 1916 and 1917; XIII Extracts from the Canada Gazette 1916 and 1917.

THE CANADA YEAR BOOK. Second Series 1905-1915. [1910 and 1913, out of print.]

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. Nos. I to XIX.

REPORT OF THE FIFTH CENSUS OF CANADA, 1911.

Vol. I, 1912. Areas and Population by Provinces, Districts and Subdistricts with Introduction. Tables I to XV, pp. i-viii, 1-623. [Out of print.]

Vol. II, 1913. Religions, Origins, Birthplace, Citizenship, Literacy and Infirmities by Provinces, Districts and Subdistricts, with Introduction. Tables I-XLVI, pp. i-iv, 1-634.

Vol. III, 1913. Manufactures for 1910 as enumerated in June 1911, with Introduction. Tables I-XX, pp. i-xvi, 1-432.

Vol. IV, 1914. Agriculture with Introduction. Tables 1-90; 1-XXXV, pp. i-xcv, 1-428. Diagrams, 5 pp. [Out of print.]

Vol. V, 1915. Forest, Fishery, Fur and Mineral Production, with Introduction. Tables 1-51; 1-XXVI, pp. i-l, 1-171.

Vol. VI, 1916. Occupations of the People, with Introduction. Tables 1-25; 1-VI, i-xxi, 1-469. [Out of print.]

REPORT OF THE CENSUS OF POPULATION AND AGRICULTURE OF THE PRAIRIE PROVINCES, 1916. January 12, 1918. Tables 1-54; 1-XXVI, pp. i-lxiv, 1-356.

SPECIAL REPORT ON THE FOREIGN-BORN POPULATION. Abstracted from the Records of the Fifth Census of Canada. June, 1911. 23 tables, 62 pp. 1915.

REPORT OF THE POSTAL CENSUS OF MANUFACTURES, 1916. pp. i-xi; 1-263, 1917.

REPORT ON THE PRODUCTION OF CREAMERIES AND CHEESE FACTORIES, 1915 and 1916. pp. 1-24, 1917.

REPORT ON THE CENSUS OF INDUSTRY, 1917. Part I. (AGRICULTURAL STATISTICS) Part II (DAIRYING STATISTICS), in the press; Part III. (FISHERY STATISTICS) Other Parts in preparation.

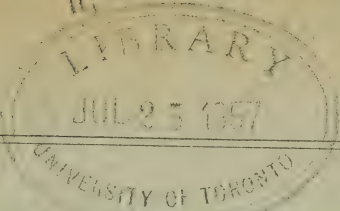
CRIMINAL STATISTICS. Annual Report for Year ended September 30, 1915. pp. i-xliv, 1-398.

CENSUS AND STATISTICS MONTHLY, Vols. 1-9, 1908-1916; Vol. 10, Nos. 111-103, 1917. MONTHLY BULLETIN OF AGRICULTURAL STATISTICS, Vols. 10 and 11, Nos. 104-124, 1917-18; Vol. 12, No. 125, 1919.

For List of Publications of the Department of Trade and Commerce, see page iii of cover.

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MONTHLY BULLETIN

OF

AGRICULTURAL STATISTICS

February, 1919.

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Printer to the King's Most Excellent Majesty

1919

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MONTHLY BULLETIN OF AGRICULTURAL STATISTICS

Vol. 12

OTTAWA, FEBRUARY, 1919.

No. 126

DOMINION STATISTICIAN: R. H. COATS, B.A., F.S.S. EDITOR: ERNEST H. GODFREY, F.S.S.
DOMINION BUREAU OF STATISTICS, OTTAWA, CANADA.

AGRICULTURAL VALUES IN CANADA, 1918.

Compiled from Returns of Crop Correspondents, January 31, 1919.

The Dominion Bureau of Statistics has published its annual report on average farm values for the year 1918, consisting of estimates of (1) the values of farm land; (2) of the wages paid for farm help; and (3) the value of farm live stock and of wool. These estimates have been compiled from the returns of a numerous corps of crop correspondents throughout Canada.

AVERAGE VALUES OF FARM LAND.

According to the returns received, the average value of farm land for the Dominion, including both improved and unimproved land, together with dwelling houses, barns, stables and other farm buildings, is \$46 per acre, as compared with \$44 in 1917, \$41 in 1916, \$40 in 1915 and \$38 in 1914. By provinces, the value is highest in British Columbia, viz., \$149, this being exactly the same figure as in 1917. The higher value per acre in this province is due to orcharding and fruit-growing. Quebec and Ontario have the same average value per acre, viz., \$57, the average for 1917 in Quebec being, however, \$53, whilst in Ontario it was \$55. In Prince Edward Island the value is \$44 as in 1917; in Nova Scotia it is \$36 against \$34; in New Brunswick \$35 against \$29; in Manitoba \$32 against \$31; in Saskatchewan \$29 against \$26 and in Alberta \$28 against \$27.

AVERAGE WAGES OF FARM HELP.

The average wages paid for farm help in 1918 show a substantial increase as compared with the previous year, and are again the highest on record. For the whole of Canada, the average wages per month of farm help during the summer, inclusive of board, are for males \$70 as compared with \$64 in 1917, and for females \$38 as compared with \$34. For the complete year, including board, the wages averaged for males \$617 and for females \$416, as compared with \$611 and \$364, respectively, in 1917. The average value of board per month is \$21 for males and \$17 for females, as against \$19 and \$15 in 1917. Compared by provinces, the average wages per month for male and female help, respectively, in the summer season, including board, were in 1918 in order of value as follows: British Columbia, \$89 and \$57; Alberta \$86 and \$50; Saskatchewan \$86 and \$49; Manitoba \$78 and \$45; New Brunswick \$69 and \$31; Quebec \$65 and \$33; Ontario \$62 and \$35; Nova Scotia \$60 and \$30; Prince Edward Island \$46 and \$25.

VALUES OF FARM LIVE STOCK AND OF WOOL.

Horses show little difference in value as compared with 1917; but the value of all descriptions of horned cattle has again increased. The prices of sheep are also higher, but swine are somewhat less. For the Dominion as a whole, horses under one year average in price \$56 as against \$57 in 1917, for horses one year to under three years the average is \$112 against \$116, and for horses three years and over the value is \$162 against \$167. Milch cows are \$87 against \$84, cattle under one year are \$25 against \$24, cattle from one year to under three years old are \$57 against \$52 and cattle three years old and over are \$88 against \$77. Sheep average \$16 against \$15 and swine per 100 lb. live weight are \$16 against \$17. The average value of wool per lb. is 62 cents for unwashed, as compared with 59 cents and for washed 80 cents as compared with 75 cents. Correspondents were requested to report as nearly as possible the average value per head of each description of farm animal, and the averages compiled from the returns received have been used for the calculation of total values according to the number of farm animals as returned last June. The resulting total values for the Dominion are as follows, the totals for 1917 being given in brackets for comparison: Horses \$459,155,000 (\$429,123,000); milch cows, \$307,244,000 (\$274,081,000); other cattle \$398,814,000 (\$274,595,000); total cattle \$706,058,000 (\$544,676,000); sheep \$48,802,000 (\$35,576,000); swine \$112,751,000 (\$92,886,000). The total value of farm live stock in Canada for 1918 is therefore estimated to be \$1,326,766,000, as compared with \$1,102,261,000 in 1917. It should be noted, however, that the comparison with 1917 is affected by the change in the method of collecting agricultural statistics, which went into operation last year, the increase in numbers being greater probably than that which was due to actual growth.

Dominion Bureau of Statistics,
Ottawa, March 11, 1919.

ERNEST H. GODFREY,
Editor.

I. Average Values per acre of Occupied Farm Lands in Canada, as estimated by Crop Correspondents, 1908-10, 1914-18.

Provinces.	1908.	1909.	1910.	1914.	1915.	1916.	1917.	1918.
	\$	\$	\$	\$	\$	\$	\$	\$
Canada.....	36	39	38	38	40	41	44	46
Prince Edward Island.....	34	32	31	39	38	39	44	44
Nova Scotia.....	25	31	25	28	28	34	34	36
New Brunswick.....	21	24	19	26	22	29	29	35
Quebec.....	42	43	43	47	51	52	53	57
Ontario.....	47	50	48	54	52	53	55	57
Manitoba.....	27	29	29	32	30	32	31	32
Saskatchewan.....	20	22	22	24	24	23	26	29
Alberta.....	18	20	24	21	23	22	27	28
British Columbia.....	76	73	74	150	125	119	149	149

II. Average Wages of Farm Help in Canada, as estimated by Crop Correspondents, 1909-10, 1914-18.

Provinces.	Per month in summer season, including board.		Per year, including board.		Average value of board per month.	
	Males.	Females.	Males.	Females.	Males.	Females.
	\$	\$	\$	\$	\$	\$
Canada.....						
1909	34	19	336	206	10	8
1910	35	21	348	210	12	10
1914	36	19	323	189	14	11
1915	37	20	341	200	15	11
1916	43	22	397	228	17	13
1917	64	34	611	364	19	15
1918	70	38	617	416	21	17
P. E. Island.....						
1909	25	14	226	144	8	6
1910	27	15	245	149	10	8
1914	25	13	221	136	10	8
1915	27	15	238	137	10	9
1916	31	18	301	167	13	9
1917	40	23	407	254	14	10
1918	46	25	469	289	15	11
Nova Scotia.....						
1909	31	15	311	165	10	7
1910	34	17	321	176	12	8
1914	31	15	301	155	11	8
1915	33	16	310	169	12	8
1916	39	19	365	195	16	11
1917	54	26	543	296	17	12
1918	60	30	590	326	19	14
New Brunswick.....						
1909	33	16	240	172	10	8
1910	34	17	289	152	11	8
1914	32	15	302	165	11	8
1915	34	16	308	153	14	8
1916	36	17	328	164	14	10
1917	57	28	572	306	18	13
1918	69	31	725	335	20	14
Quebec.....						
1909	33	17	331	177	10	8
1910	36	19	313	178	12	8
1914	34	16	296	152	13	9
1915	33	16	301	159	13	10
1916	41	20	371	196	16	11
1917	59	29	523	287	17	12
1918	65	33	575	317	20	13
Ontario.....						
1909	32	18	332	203	10	8
1910	31	20	336	211	12	10
1914	32	17	297	172	13	10
1915	31	17	304	179	13	11
1916	39	32	360	206	16	13
1917	59	32	561	344	18	14
1918	62	35	425	382	20	16
Manitoba.....						
1909	36	24	366	262	11	9
1910	40	25	400	282	15	11
1914	39	22	364	226	15	13
1915	45	27	390	245	15	13
1916	48	27	454	283	18	15
1917	68	40	689	452	21	17
1918	78	45	791	494	23	19
Saskatchewan.....						
1909	38	24	390	264	16	10
1910	40	25	403	264	14	13
1914	41	23	366	235	17	14
1915	42	24	386	241	17	14
1916	49	26	434	278	18	15
1917	73	41	734	470	23	18
1918	86	49	849	545	25	20

II. Average Wages of Farm Help in Canada, as estimated by Crop Correspondents, 1909-10, 1914-18—con.

Provinces.		Per month in summer season, including board		Per year, including board.		Average value of board per month.	
		Males.	Females.	Males.	Females.	Males.	Females.
		\$	\$	\$	\$	\$	\$
Alberta.....	1909	40	26	422	285	15	12
	1910	40	28	416	300	17	14
	1914	40	24	365	236	16	14
	1915	44	24	404	253	17	14
	1916	52	29	501	299	20	16
	1917	76	44	784	476	23	19
	1918	86	50	863	569	26	22
British Columbia....	1909	46	25	428	265	15	10
	1910	57	38	—	—	20	17
	1914	48	31	460	324	21	18
	1915	49	31	463	287	19	16
	1916	50	29	543	325	22	18
	1917	78	48	803	481	25	21
	1918	89	57	903	589	28	23

III. Average Values of Farm Animals and of Wool, as estimated by Crop Correspondents, 1909-10, 1914-18.

Provinces.		Horses.			Milch cows	Other horned cattle.			Swine per 110 lb. live weight	Sheep.	Wool per lb.	
		Under 1 year	1 year to under 3 years	3 years and over		Under 1 year	1 year to under 3 years	3 years and over			Un-washed	Washed
			\$	\$			\$	\$				
Canada.....	1909	49	106	150	36	10	23	33	8 00	6 00	0 17	0 24
	1910	54	119	171	42	12	26	39	8 00	6 00	0 18	0 24
	1914	55	114	165	57	16	37	54	7 00	7 00	0 19	0 26
	1915	54	111	160	62	17	38	55	9 00	8 00	0 28	0 38
	1916	54	109	160	70	20	43	63	12 00	10 00	0 37	0 50
	1917	57	116	167	84	24	52	77	17 00	15 00	0 59	0 75
	1918	56	112	162	87	25	57	88	16 00	16 00	0 62	0 80
P. E. Island.....	1909	34	87	126	31	8	19	28	7 00	5 00	0 16	0 22
	1910	44	102	140	32	8	19	28	7 00	6 00	0 17	0 24
	1914	46	95	143	39	11	23	35	7 00	6 00	0 21	0 27
	1915	42	92	136	42	11	25	37	8 00	7 00	0 32	0 40
	1916	37	76	112	52	14	31	46	12 00	9 00	0 37	0 47
	1917	41	79	118	63	17	37	54	17 00	14 00	0 60	0 76
	1918	43	86	131	71	17	38	60	16 00	15 00	0 65	0 83
Nova Scotia.....	1909	40	90	133	33	9	23	37	7 00	4 00	0 19	0 24
	1910	46	95	145	37	9	24	40	7 00	4 00	0 20	0 25
	1914	53	116	166	40	10	25	42	8 00	5 00	0 21	0 26
	1915	53	108	167	45	11	28	44	8 00	5 00	0 31	0 40
	1916	50	99	150	53	13	32	54	11 00	7 00	0 39	0 49
	1917	49	101	149	63	18	41	63	17 00	9 00	0 61	0 74
	1918	51	100	152	65	15	40	62	17 00	10 00	0 71	0 88
New Brunswick...	1909	40	90	137	29	8	18	28	7 00	4 00	0 18	0 24
	1910	50	112	157	33	8	19	31	7 00	5 00	0 18	0 23
	1914	54	123	183	40	11	24	39	8 00	5 00	0 22	0 28
	1915	59	127	182	40	11	25	37	8 00	5 00	0 30	0 40
	1916	55	113	169	48	13	28	44	12 00	6 00	0 36	0 48
	1917	54	118	165	63	16	37	55	16 00	10 00	0 59	0 74
	1918	60	125	175	65	18	38	58	17 00	12 00	0 71	0 89

III. Average Values of Farm Animals and of Wool, as estimated by Crop Correspondents, 1909-10, 1914-18.—con.

Provinces.	Horses.			Milch cows	Other horned cattle.			Swine per 110 lb. live weight.	Sheep.	Wool per lb.	
	Under 1 year	1 year to under 3 years.	3 years and over.		Under 1 year.	1 year to under 3 years.	3 years and over.			Un-washed.	Washed
		\$	\$			\$	\$				
Quebec.....1909	41	98	145	33	8	19	29	10 00	5 00	0 21	0 29
1910	46	103	155	39	9	21	32	9 00	6 00	0 21	0 29
1914	49	107	164	47	11	27	41	9 00	7 00	0 23	0 30
1915	48	104	159	51	12	28	42	10 00	7 00	0 33	0 43
1916	49	105	155	62	16	35	52	14 00	11 00	0 44	0 58
1917	53	117	171	81	19	43	67	20 00	15 00	0 65	0 83
1918	53	114	171	79	18	40	62	17 00	14 00	0 63	0 83
Ontario.....1909	53	110	144	40	12	26	38	7 00	7 00	0 14	0 20
1910	60	127	174	48	14	31	46	7 00	7 00	0 14	0 20
1914	54	111	152	64	20	43	62	8 00	9 00	0 19	0 25
1915	51	102	142	70	20	45	64	9 00	10 00	0 26	0 33
1916	52	105	151	76	23	51	71	12 00	13 00	0 34	0 44
1917	55	105	147	92	29	63	90	17 00	18 00	0 55	0 66
1918	54	105	146	96	29	65	94	17 00	20 00	0 61	0 76
Manitoba.....1909	63	132	187	34	10	21	30	7 00	7 00	0 09	0 14
1910	68	146	207	40	11	24	36	7 00	7 00	0 10	0 13
1914	61	126	176	62	17	38	56	6 00	9 00	0 14	0 18
1915	63	124	178	65	18	41	60	8 00	9 00	0 21	0 29
1916	61	123	171	74	21	47	67	11 00	12 00	0 31	0 37
1917	63	127	178	88	27	55	83	16 00	16 00	0 51	0 55
1918	65	126	182	91	28	65	93	16 00	17 00	0 56	0 67
Saskatchewan.....1909	56	123	180	38	11	25	40	7 00	7 00	0 10	0 13
1910	50	137	200	41	12	27	40	8 00	7 00	0 09	0 14
1914	63	133	187	66	18	41	61	6 00	7 00	0 15	0 20
1915	64	132	180	69	20	44	62	8 00	8 00	0 20	0 24
1916	65	133	188	73	22	47	67	10 00	10 00	0 28	0 33
1917	69	137	194	85	27	58	83	15 00	14 00	0 50	0 54
1918	64	134	190	91	30	64	92	15 00	17 00	0 56	0 71
Alberta.....1909	47	97	150	35	11	23	33	7 00	7 00	0 12	0 18
1910	51	108	164	39	12	25	38	8 00	6 00	0 11	0 18
1914	45	91	137	66	21	42	61	6 00	7 00	0 14	0 18
1915	47	97	142	69	22	45	64	8 00	8 00	0 23	0 25
1916	51	102	151	77	27	51	73	11 00	10 00	0 28	0 37
1917	55	109	161	89	33	62	87	16 00	15 00	0 51	0 55
1918	48	96	142	93	32	64	95	15 00	15 00	0 57	0 69
British Columbia..1909	44	111	165	51	12	26	38	8 00	7 00	0 10	0 15
1910	63	144	225	57	13	28	43	—	—	0 10	0 15
1914	46	93	162	89	22	48	73	8 00	8 00	0 15	0 16
1915	42	93	136	91	21	48	67	9 00	8 00	0 19	0 20
1916	48	87	144	90	24	48	72	13 00	11 00	0 29	0 45
1917	50	101	155	103	29	62	89	17 00	14 00	0 46	0 52
1918	52	98	150	106	29	65	93	15 00	15 00	0 54	0 64

IV. Numbers in June and Values in December of Farm Live Stock in Canada, as estimated by Crop Correspondents, 1917 and 1918.

Farm Animals.	1917.	1918.	1917.	1918.	1917.	1918.
	No.	No.	\$ per head.	\$ per head.	\$	\$
Canada—						
Horses.....	3,412,749	3,609,257	126	127	429,123,000	459,155,000
Milch cows.....	3,202,283	3,543,600	86	87	274,081,000	307,244,000
Other cattle.....	4,718,657	6,507,267	57	61	270,595,000	398,814,000
Total cattle.....	7,920,940	10,050,867	69	70	544,676,000	706,058,000
Sheep.....	2,369,358	3,052,748	15	16	35,576,000	48,802,000
Swine.....	3,619,382	4,289,682	26	26	92,886,000	112,751,000

IV. Numbers in June and Values in December of Farm Live Stock in Canada, as estimated by Crop Correspondents, 1917 and 1918.—con.

Farm Animals.	1917.	1918.	1917.	1918.	1917.	1918.
	No.	Na.	\$ per head.	\$ per head.	\$	\$
Prince Edward Is.—						
Horses.....	38,948	32,620	88	103	3,408,000	3,353,000
Milch cows.....	46,032	41,429	64	71	2,923,000	2,922,000
Other cattle.....	54,970	69,092	38	44	2,075,000	3,008,000
Total cattle.....	101,092	110,521	50	54	4,998,000	5,930,000
Sheep.....	90,593	73,046	14	15	1,245,000	1,081,000
Swine.....	35,236	40,814	27	29	947,000	1,183,000
Nova Scotia—						
Horses.....	64,193	70,101	111	117	7,141,000	8,194,000
Milch cows.....	131,442	157,829	63	65	8,314,000	10,337,000
Other cattle.....	135,046	249,422	45	44	6,077,000	11,046,000
Total cattle.....	266,488	407,251	54	53	14,391,000	21,383,000
Sheep.....	200,979	259,847	9	10	1,809,000	2,626,000
Swine.....	49,850	68,238	29	30	1,433,000	2,020,000
New Brunswick—						
Horses.....	65,169	66,590	127	141	8,244,000	9,385,000
Milch cows.....	100,221	120,123	63	65	6,314,000	7,810,000
Other cattle.....	89,456	166,624	40	41	3,534,000	6,770,000
Total cattle.....	189,677	286,747	52	51	9,848,000	14,580,000
Sheep.....	103,877	140,015	10	12	1,039,000	1,642,000
Swine.....	69,269	79,814	27	28	1,853,000	2,219,000
Quebec—						
Horses.....	379,276	496,811	132	131	49,875,000	65,082,000
Milch cows.....	911,023	1,163,865	82	79	74,248,000	91,945,000
Other cattle.....	958,010	1,245,819	46	45	43,830,000	56,062,000
Total cattle.....	1,869,033	2,409,684	63	61	118,078,000	148,007,000
Sheep.....	849,148	959,070	15	14	12,737,000	13,427,000
Swine.....	712,087	997,255	29	26	20,294,000	25,929,000
Ontario—						
Horses.....	887,246	732,977	113	111	100,259,000	81,169,000
Milch cows.....	1,082,119	1,102,039	93	96	100,096,000	105,515,000
Other cattle.....	865,847	1,770,683	63	67	54,332,000	118,765,000
Total cattle.....	1,947,966	2,872,722	79	78	154,428,000	224,280,000
Sheep.....	595,477	972,341	19	20	11,016,000	19,766,000
Swine.....	1,236,064	1,656,386	25	27	31,211,000	43,896,000
Manitoba—						
Horses.....	324,175	384,772	138	141	44,574,000	54,371,000
Milch cows.....	202,177	225,659	88	91	17,842,000	20,622,000
Other cattle.....	357,870	521,240	57	64	20,488,000	33,546,000
Total cattle.....	560,047	746,899	69	73	38,330,000	54,168,000
Sheep.....	80,588	136,782	16	17	1,289,000	2,317,000
Swine.....	175,013	284,596	24	26	4,157,000	7,517,000
Saskatchewan—						
Horses.....	880,301	990,009	138	149	121,482,000	147,511,000
Milch cows.....	354,403	352,989	85	91	30,213,000	32,122,000
Other cattle.....	856,687	926,342	59	66	50,116,000	61,139,000
Total cattle.....	1,211,090	1,279,331	66	73	80,329,000	93,261,000
Sheep.....	127,892	134,177	14	17	1,822,000	2,281,000
Swine.....	573,938	521,240	25	28	14,492,000	14,595,000
Alberta—						
Horses.....	718,317	791,246	122	107	87,635,000	84,662,000
Milch cows.....	325,861	328,702	89	93	29,083,000	30,569,000
Other cattle.....	1,209,433	1,362,880	64	70	77,706,000	95,402,000
Total cattle.....	1,535,294	1,691,582	70	74	106,789,000	125,971,000
Sheep.....	276,966	332,179	15	15	4,016,000	4,983,000
Swine.....	730,237	601,534	24	24	17,708,000	14,437,000
British Columbia—						
Horses.....	55,124	44,131	118	123	6,505,000	5,428,000
Milch cows.....	49,005	50,965	103	106	5,048,000	5,402,000
Other cattle.....	191,338	195,165	65	67	12,437,000	13,076,000
Total cattle.....	240,343	246,130	73	75	17,485,000	18,478,000
Sheep.....	43,858	45,291	14	15	603,000	679,000
Swine.....	37,688	39,805	21	24	791,000	955,000

V. Estimated Total Values of Farm Live Stock in Canada, by Provinces, 1914-1918.

Province and Year.		Horses.	Cattle.	Sheep.	Swine.	Total.
		\$	\$	\$	\$	\$
Canada—						
	1914	371,430,363	297,130,793	14,550,710	42,418,325	725,530,191
	1915	373,381,000	316,380,000	16,226,000	43,653,000	749,640,000
	1916	380,884,000	360,874,000	20,312,000	49,477,000	811,547,000
	1917	429,123,000	544,676,000	35,576,000	92,886,000	1,102,261,000
	1918	459,155,000	706,058,000	48,802,000	112,751,000	1,326,766,000
Prince Edward Island—						
	1914	4,013,710	3,405,125	516,374	614,923	8,550,132
	1915	3,911,000	3,588,000	606,000	510,000	8,615,000
	1916	3,355,000	4,369,000	799,000	766,000	9,289,000
	1917	3,408,000	4,998,000	1,245,000	947,000	10,598,000
	1918	3,353,000	5,930,000	1,081,000	1,183,000	11,547,000
Nova Scotia—						
	1914	7,594,204	9,416,337	996,029	849,877	18,856,447
	1915	7,621,000	10,354,000	1,130,000	961,000	20,066,000
	1916	6,933,000	12,172,000	1,306,000	935,000	21,346,000
	1917	7,141,000	14,391,000	1,809,000	2,626,000	25,967,000
	1918	8,194,000	21,383,000	1,433,000	2,020,000	33,030,000
New Brunswick—						
	1914	9,060,306	6,763,618	563,652	1,300,052	17,687,628
	1915	9,018,000	6,767,000	555,000	1,269,000	17,609,000
	1916	8,244,000	7,904,000	689,000	1,202,000	18,039,000
	1917	8,244,000	9,848,000	1,039,000	1,853,000	20,984,000
	1918	9,385,000	14,580,000	1,642,000	2,219,000	27,826,000
Quebec—						
	1914	50,105,892	59,334,657	3,770,494	9,087,028	122,298,071
	1915	41,728,000	61,187,000	4,159,000	9,175,000	116,249,000
	1916	38,252,000	66,720,000	5,226,000	9,032,000	119,230,000
	1917	49,875,000	118,078,000	12,737,000	20,294,000	200,984,000
	1918	65,082,000	148,007,000	13,427,000	25,939,000	252,445,000
Ontario—						
	1914	105,393,389	113,759,147	5,571,619	19,606,735	244,330,890
	1915	108,423,000	119,349,000	6,118,000	20,574,000	254,464,000
	1916	112,026,000	140,866,000	7,370,000	25,283,000	285,545,000
	1917	100,259,000	154,428,000	11,016,000	31,211,000	296,914,000
	1918	81,169,000	224,280,000	19,766,000	43,896,000	369,111,000
Manitoba—						
	1914	41,634,302	20,044,976	396,854	2,034,134	64,110,266
	1915	42,274,000	21,088,000	432,000	2,368,000	66,162,000
	1916	40,754,000	22,313,000	597,000	2,215,000	65,879,000
	1917	44,574,000	38,330,000	1,289,000	4,157,000	88,350,000
	1918	54,371,000	54,168,000	2,317,000	7,517,000	118,373,000
Saskatchewan—						
	1914	90,026,252	34,475,726	892,271	4,396,978	129,791,227
	1915	92,619,000	40,699,000	1,066,000	5,347,000	139,731,000
	1916	96,025,000	44,214,000	1,384,000	5,686,000	147,309,000
	1917	121,482,000	80,329,000	1,822,000	14,492,000	218,125,000
	1918	147,511,000	93,261,000	2,281,000	14,595,000	257,648,000
Alberta—						
	1914	56,352,310	40,866,739	1,468,567	4,062,568	102,750,184
	1915	61,559,000	44,942,000	1,789,000	2,871,000	111,161,000
	1916	68,673,000	52,949,000	2,455,000	3,658,000	127,735,000
	1917	87,635,000	106,789,000	4,016,000	17,708,000	216,148,000
	1918	84,662,000	125,971,000	4,983,000	14,437,000	230,053,000
British Columbia—						
	1914	7,249,998	9,064,468	374,850	466,030	17,155,346
	1915	6,228,000	8,406,000	371,000	578,000	15,583,000
	1916	6,622,000	9,367,000	486,000	700,000	17,174,000
	1917	6,505,000	17,485,000	603,000	791,000	25,384,000
	1918	5,428,000	18,478,000	679,000	955,000	25,540,000

REPORTS FROM THE PROVINCES.

Maritime Provinces.—Live stock throughout the three provinces have come through the winter in good condition. A shortage of hay compelled some farmers to sell off beef, cattle and horses. The former met with a good demand and high prices were realized, but the prices for the latter were but a slight increase over last year. Swine were plentiful and commanded good prices. Sheep are not raised extensively in these eastern provinces, but the industry is progressing favourably. Although wool prices show an increase over last year, there has been a gradual decrease during the last month or so.

Quebec.—The mild weather this winter was beneficial to all live stock. A decline in prices is noticeable for all animals, but especially for swine. Farm labour was very scarce, although high wages were offered, and since the war labour has been attracted towards the city, where working hours are shorter. Few farmers employ help, either male or female, by the year. Farm labour lasts about three or four months during the seeding, haying and harvesting seasons. Wool is not so much in demand, and the prices for it are set by the Co-operative Society.

Ontario.—All live stock have come through the winter in good condition. A shortage of hay has been felt in some districts, but on the whole other substitutes have been plentiful. The horse market has been comparatively dull. The demand for heavy horses is greater than that for light ones, and prices show a slight decrease as against last year. There is a ready market for cattle of all grades, dairy cattle realizing especially good prices. There has been a considerable decline in the pork market of late. On account of the favourable weather, sheep in western and southern Ontario have pastured in the open during the winter months and are in good condition. A tendency toward lower prices for wool has been shown during the past few weeks. Labour is still scarce and where obtainable is very costly.

Prairie Provinces.—Throughout the Prairie Provinces, the weather has been exceptionally mild, and live stock have been ranging out most of the winter and are in good condition. The horse market has been extremely dull, very few horses changing hands. Cattle of all kinds are in good demand and are realizing high prices. The demand for swine is very poor, and prices have dropped considerably. Labour is difficult to procure and costly. Prospects for an early spring are good.

British Columbia.—Owing to the exceptionally mild weather, all live stock have wintered well. There has been comparatively no market for horses. Both beef and dairy cattle are commanding high prices. There has been a marked reduction in prices of swine. The labour question is still a difficult one. Chinese and Japanese labour demand equally high wages as other throughout the province; and even this is scarce.

CROP REPORT FROM ONTARIO.

The Ontario Department of Agriculture reports (March 4) that the mild winter has helped owners of live stock to bring their animals along with less drain than usual upon fodder stores. There is plenty of both grain and roughage on hand, although there are some complaints that corn silage is poorer in feeding quality than in most years. With the drop in the price of oats, farmers are feeding more of that grain to their live stock. Cattle are reported to be in fair condition, and are being marketed about as usual for the time of year. The milk flow is keeping up well, and good grade Holstein cows are bringing from \$100 to \$175. Horses are selling in Peterborough at from \$150 to \$175, but there is no great demand. Hogs are not going to market in large numbers, and there is a tendency to turn them off somewhat light or unfinished. Prices have slightly improved, and now range from \$16.50 to \$17.75 a cwt. Little pigs are selling at from \$6 to \$8 each, but at a recent auction sale in Brant some eight week old pigs brought \$12 a piece. The marketing of field crops is slow, notwithstanding the large quantity of grain reported to be on hand. Hay is scarce, and is selling at from \$18 to \$25 a ton. Alfalfa is bringing \$22 a ton in Norfolk. There is an abundance of shelled corn in the southwestern counties, and Kent reports that some kept for seed is now being fed to the hogs. Notwithstanding that most of the fall wheat fields have had little or no protection for the last two months, reports regarding the crop are still hopeful. Owing to the remarkably open weather prevailing this winter, more outside work than usual has been done.

DOMINION EXPERIMENTAL FARMS AND STATIONS.

Central Farm, Ottawa.—The weather during January has been remarkably mild and high winds have been absent; but clouds have been more in evidence than usual, and, consequently, there has been a lack of bright sunshine. The highest temperature recorded during the month is 37.2, the lowest -22 and the mean is 16.97; while a year ago the maximum was 27 and the minimum 21.4 and the mean temperature 4.95. The precipitation totals 2.54 inches, made up of 0.77 of an inch of rain and 17.75 inches of snow; while for the previous January it amounted to 3.14 inches, consisting entirely of snow. The heaviest snowfall for twenty-four hours was 5.5 inches on the 10th. The sunshine averages only 2.79 hours a day as compared with 4.15 hours a day for the corresponding period of 1918. On ten days no sunshine at all has been recorded, and on six days bright sunshine was in evidence for less than an hour.

Charlottetown, P.E.I.—R. D. L. Bligh, Officer in Charge, reports:—"The weather during January has been abnormally mild, with but little sunshine or precipitation. The month has been further marked by the absence of severe or heavy storms. The mean average daily temperature is 21.18, as compared with an average of 17.43 for the same period during the five previous years. There have been

much less sunshine and precipitation than usual, the sunshine aggregating only 70.9 hours and the precipitation 3.10 inches, the latter being made up of 1.65 inch of rain, which fell on six different days and 14.5 inches of snow, which fell on eight different days. In spite of the various thaws, with very light falls of snow, good sleighing has prevailed throughout the month. Zero weather has been recorded on three different days, namely, the 11th, 12th and 21st. The coldest day of the winter to date was the 12th, when the mercury dropped to -13 , accompanied by a high northwest wind. A heavy silver thaw occurred on the night of the 3rd, which covered everything with a heavy coating of ice. This resulted in considerable damage to the telephone and telegraph lines, and caused many trees to break under their load of ice. The comparatively mild weather which has prevailed has been very effective in helping out the hay shortage, and very satisfactory for the poultrymen's winter egg production."

Kentville, N.S.—W. S. Blair, Superintendent, reports:—"The weather during January has been very moderate, the mean temperature being about six degrees higher than for the corresponding month in 1918. The thermometer went below zero on only two occasions during the month, dropping to -7 on the 12th and to -2 on the 22nd. It has rained on eight different days, the rainfall aggregating 15 inches, the heaviest being 1.14 inch on the 4th and 0.88 of an inch on the 24th. Snow has fallen on seven days, aggregating 15 inches, the heaviest being 4 inches on the 3rd and the 11th, respectively. Except for a very brief period of two days, there has been no sleighing during the month. It has been unusually cloudy, no sunshine at all being recorded on fourteen days, and the aggregate of sunshine for the month being only 53.5 hours. So far, the winter has been an exceptionally easy one on fuel, and the shortage of hay for stock has been helped out materially because a less amount was required to carry the animals through in good condition."

Nappan, N.S.—W. W. Baird, Superintendent, reports:—"The weather during the first part of January was somewhat changeable, with light snowfalls and little rain. It was exceptionally cold on the 11th, when a heavy blizzard was experienced. From the 11th to the 31st, it has been unusually fine. Much time was spent during the first of the month in preparing and making a brow for logging; chopping was commenced on the 10th. All the turnip seed produced on this farm during the past season was re-cleaned and shipped to Ottawa on the 9th. The poultry plant is progressing nicely. All live stock is in good condition and doing nicely."

Fredericton, N.B.—W. W. Hubbard, Superintendent, reports:—"As winter months go in New Brunswick, January was one of the pleasantest on record. As compared with January 1918, the mean temperature is 5.9 degrees higher; and the absence of wind, with enough soft weather to settle the snow, kept the roads good instead of the daily drifting that was the feature a year ago. The rainfall totals 1.35 inch compared with nil in 1918; the snowfall has been about the same as last year. In consequence of the favourable

weather, winter work is well advanced on the farms, and lumbering operations also have been economical with much of the heavy work accomplished. There has also been a great saving in feed over last year, and live stock generally is in good condition. The dairy herd at the Experimental Station has been doing exceptionally well. The fuel situation is also well in hand, and there will be ample supplies for the remainder of the season. Swine are able to get lots of outdoor exercise and both brood sows and growing stock are healthy and vigorous. Sheep, also, are in good condition, and January lambs are making especially good growth."

Ste. Anne de la Pocatière, Que.—Jos. Begin, Superintendent, reports:—"On the whole, January has been milder than usual, but without any rain. The highest temperature recorded is 38.4, the lowest -23.8 and the mean 12.6, as against extremes of 34.6 and -27 and a mean of 8.6 for the corresponding period in 1918. The precipitation amounts to 3.10 inches made up entirely of snow. Fairly moderate temperatures have prevailed throughout the month, the mercury dropping below zero on only four occasions. On the 24th, 22 inches of snow and hail were recorded, resulting in the railway service being interrupted for nearly 48 hours. Five local fairs have been held in as many different counties of this district. Judging from the seed grain exhibited at these fairs as well as from correspondence received, it would seem that not less than 50 p.c. of all grain needed for seed will be imported this year, the heavy frost of September being largely responsible for this condition. Many parishes have already placed, through the Seed Branch representative, orders for the seed grain needed."

Cap Rouge, Que.—G. A. Langelier, Superintendent, reports:—"January has been warmer, drier, and duller than the average for the corresponding month during the last seven years, the figures being, respectively, 13.02 and 8.86 for mean temperature, 3.51 and 4.36 inches for precipitation, and 45.9 and 54.5 hours for sunshine. Work at the Station has consisted mainly in the care of the live stock and poultry, in care of roads, in hauling ice and feed, in cleaning seeds, in repairs to machines and buildings, and in spreading manure right out on the snow. Farmers of the district have taken advantage of the unusually fine weather and roads to haul lumber and fuel, also hay and straw, to Quebec city, where the same are selling at very high prices."

Lennoxville, Que.—J. A. McClary, Superintendent, reports:—"January has been very mild, the highest temperature being 43, the lowest -27 and the mean 16.46, compared with extremes of 37 and -45 and a mean temperature of 2.16 a year ago. The sunshine recorded totals 38.5 hours, compared with 70.7 hours last year. The precipitation amounts to 1.90 inch, while a year ago it totalled 2.20 inches. The prevailing mild weather has made it difficult for farmers and others to get in their supplies of ice for summer use. Also, with the small amount of snow, farmers are finding it difficult to get out their supply of lumber and fuel for the coming year. January being the month for the annual meetings of the Provincial Agricultural

Society, the Farmers' Clubs and the Sheep Breeders' Associations, it is pleasing to note that there have been good attendances and that much interest is shown this year in these various organizations. The farmers seem to realize and take advantage of the benefits that may be derived from these associations in the matter of purchasing seed grain, fertilizers, etc., required for their farm work."

Brandon, Man.—W. C. McKillican, Superintendent, reports:—"This January has been the mildest for twenty-eight years. There has not been very much snow and the days have been usually bright and warm. Thaws have been experienced on four days of the month, and a light rain fell on the night of the 23rd. The first five carloads of hay obtained from the meadows of northern Manitoba are now on the way here. At the Experimental Farm, a carload of pigs has been sold at \$15.50 per cwt".

Indian Head, Sask.—W. H. Gibson, Superintendent, reports:—"January has been very mild and free from winds. The coldest spell occurred from the 1st to the 3rd, after which the weather moderated, remaining quite mild for the balance of the month. Snow has been recorded on five days, giving a total fall of 12.25 inches, which drifted very little".

Rosthern, Sask.—Wm. A. Munro, Superintendent, reports:—"The average temperature for January 1919 is 17.6 degrees higher than that for January a year ago, and that for December 27 degrees higher than for the same month of the previous year. This is a fair indication of the mildness of the winter, and coupled with such favourable temperatures is the small amount of snow, which makes all winter work much more easily carried on than usual. The roads are in splendid condition, which facilitates hauling, and the mild weather and small amount of snow make it possible for much of the stock to feed comfortably at straw piles, and, in the more unsettled sections, to 'rustle'. The two carloads of steers purchased in October are making rapid gains. Both lots are being fed oat and barley chop and prairie hay, and one carload is being fed, in addition, 10 lb. of sliced turnips per steer a day. This small proportion of turnips makes a marked difference in the development of the steers. During the day time the horses on the Experimental Station are given the run of a half section, in which is a straw pile. They are stabled at night and fed hay and are in a thrifty condition."

Scott, Sask.—M. J. Tinline, Acting Superintendent, reports:—"The weather during January has been unusually mild for this season of the year. The mean temperature, 14.28, is much the highest on record at this Station for this month. Only on two days has the maximum thermometer reading been below zero and only on twelve days has the minimum thermometer recorded below this point. About the usual amount of snow has fallen, and, at the end of the month, there is an average depth of snow of approximately six inches; this is uniformly distributed and well crusted over, thus preventing drifting. Up to January 20th, live stock thrived well pasturing on the stubble and native grasses; since that date, sheep and cattle have required supplementary feeding."

Lacombe, Alberta.—G. H. Hutton, Superintendent, reports:—
“This has been the most moderate January in the history of the Station. At no time has the temperature dropped to quite as low as five degrees below zero, and the mean temperature, 21·5, is exceptionally high. Live stock have been consuming less feed than ever before, and are showing remarkable results. The prices of live stock products are declining quite rapidly in some cases. Hogs have gone off badly during the month, and the demand for breeding sheep in Alberta is not at all keen at present. The demand from eastern points, however, is fairly strong. Live stock at this Station, particularly the Angus herd, the breeding sheep and the brood sows, never have been in better condition, and, judging from present indications, there is likely to be a lively demand for Angus bulls.”

Lethbridge, Alberta.—W. H. Fairfield, Superintendent, reports:—
“The weather during January has been exceptionally mild. There has been only one day during the month when the thermometer went to zero. The mean temperature is 34·3, which is the highest for January recorded since this Experimental Station was established, the nearest approach to it being nine years ago, when the mean temperature for the month was 23·4. In 1916, the mean for January was -8·9. The ground has been bare of snow all month, and the total precipitation amounts to only ·06 of an inch. This weather has been very favourable for ranchmen, as it has not necessitated the feeding of any hay except where the winter pasture has been exhausted. The water situation in some districts is causing inconvenience, due to the lack of snow. Under ordinary circumstances, such a protracted mild spell would have melted snow drifts sufficiently to have filled the water holes.”

Invermere, B.C.—G. E. Parham, Superintendent, reports:—
“January has been remarkable for its high temperature record, the mean being 19·76 as compared with an average mean for the four preceeding years of 1·5. The first half of the month was cold, with a mean temperature of 9·1, the thermometer falling below zero on nine occasions; but the mean for the second half is no less than 30, this being accountable largely to the prevalence of southerly or “Chinook” winds, which on several occasions reached the velocity of a gale, and which swept the valley practically clear of snow. The surface of the roads having been converted into ice by previous conditions, sleighing has been possible throughout the month; but frequent snow slides on the mountain roads for a time seriously interfered with the traffic from the mines. Conditions for the wintering of horses in the open continue very favourable, the feed on the ranges being abundant and easily obtained. At the Experimental Station, advantage has been taken of the good condition of the ice on Lake Windermere to harvest the annual supply. In connection with the poultry work, some high egg-laying records have been noted, one pen of White Wyandottes averaging 21·6 eggs per bird, for the month.”

Summerland, B.C.—R. H. Helmer, Superintendent, reports:—"January has been exceptionally mild; very little snow has fallen and only a few showers of rain. Conditions have been rather trying for cattle being fed in the open, and during a rainy spell, lasting off and on for ten days, the animals went back. Many range cattle have been turned out on the range to save feed. South winds have prevailed during the month. The freezing and thawing which has occurred has had a tendency to dry out the land. Hay has dropped a little in price, owing to the mild winter. The pruning of fruit trees has been started this month and has become general throughout the district. The British Columbia Fruit Growers' Associations held a most successful convention at Penticton, B.C., with a record attendance. Up to date, no ice has been harvested in this section."

Agassiz, B.C.—W. H. Hicks, in charge, reports:—"The minimum temperature of 20 for January, is the highest for the month since 1910. The mean temperature, 38.58, is also the highest for a number of years. Frost has occurred on only twelve days during the month. The precipitation, amounting to 11.01 inches, is the greatest for January since 1914; all of it has been recorded between the 14th and the 30th, rain being experienced every day during that period. The weather for the first thirteen days was ideal, being bright, warm, and dry. Taken as a whole, the January weather, with its absence of snow and cold, has enabled stockmen to save considerably in feed bills. Feed of all kinds is now selling a little lower than earlier in the month. There is a good demand for all dairy and poultry products, at good prices."

Sidney, Vancouver Island, B.C.—Lionel Stevenson, Superintendent, reports:—"The temperatures recorded during January have ranged from a minimum of 28 to a maximum of 52. The rainfall has been above average, in that 4.45 inches fell. No snow has been experienced. The weather has been favourable for ploughing, draining, land clearing, orchard pruning and wood cutting. The live stock of the district have wintered well. Alfalfa, hay and grain feeds have been purchased in quantity by local dairymen. At a number of farm sales in the district, high prices have been paid for dairy cattle, sheep, swine and poultry, while horses sold below value. In the fruit districts, some horticultural work has been done during the month. At the Experimental Station, the activities, in addition to caring for the live stock and poultry, have included landscape work by way of clearing debris from wooded area, the planting of sample hedges, the moving of the holly plantation, the pruning of small fruits and pears, the drainage of land, the making of road improvements and the manuring of sod land."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of January are given in the following table:—

Meteorological Record for January, 1919.

Experimental Farm or Station at—	Degrees of Temperature F.			Precipitation inches.	Hours of Sunshine.	
	High- est.	Low- est.	Mean.		Possible.	Actual
Ottawa, Ont.....	37.2	-22.0	16.97	2.54	285	86.7
Charlottetown, P.E.I.....	44.0	-13.0	21.18	3.10	281	70.9
Kentville, N.S.....	53.0	-7.0	24.2	4.73	286	53.5
Nappan, N.S.....	52.0	-13.0	20.99	1.56	285	86.7
Fredericton, N.B.....	39.0	-18.0	13.9	5.26	283	71.7
Ste. Anne de la Pocatière, Que.....	38.4	-23.8	12.6	3.10	278	1
Cap Rouge, Que.....	37.0	-19.9	13.02	3.51	278	45.9
Lennoxville, Que.....	43.0	-27.0	16.45	1.90	285	38.5
Brandon, Man.....	36.5	-35.2	10.1	0.21	268	114.1
Indian Head, Sask.....	40.0	-34.0	14.67	1.22	266	53.0
Rosthern, Sask.....	33.6	-29.3	11.22	0.75	252	101.9
Scott, Sask.....	41.0	-23.8	14.28	0.73	255	79.1
Lacombe, Alberta.....	45.8	-4.6	21.5	0.25	257	74.2
Lethbridge, Alberta.....	57.0	-5.0	34.27	0.06	269	105.1
Invermere, B.C.....	43.0	-10.0	19.76	0.98	266	59.6
Summerland, B.C.....	47.0	11.0	31.01	0.82	268	58.1
Agassiz, B.C.....	49.0	20.0	38.58	11.01	271	53.3
Sidney, Vancouver, I. B.C.....	52.0	28.0	39.50	4.45	273	43.2

¹Not available.

Ottawa, February 12, 1919.

J. H. GRISDALE,
Director Experimental Farms.

SEED SURVEY REPORT FOR CANADA.

The following table is a summary of the seed survey of January 1, 1919, conducted and reported by the Seed Branch, Department of Agriculture, Ottawa, Canada:

Kind of Seed.	Stock on hand.		Total Receipts.	
	January 1, 1919.	February 1, 1918.	6 months ended Jan. 1, 1919.	7 months ended Feb. 1, 1918.
FIELD SEED STOCKS AND RECEIPTS.				
	lb.	lb.	lb.	lb.
Red clover.....	1,788,169	1,987,620	1,918,588	3,122,451
Alsike clover.....	2,593,415	2,239,739	10,876,841	6,568,221
White clover.....	58,617	47,904	54,307	54,264
Crimson clover.....	17,267	20,697	3,077	14,160
Sweet clover.....	406,751	179,882	506,169	187,918
Alfalfa.....	372,764	383,318	296,211	382,915
Timothy.....	6,481,918	6,973,311	5,110,690	8,739,265
Redtop.....	138,069	103,420	64,726	64,846
Orchard grass.....	25,222	34,767	6,476	12,859
Kentucky bluegrass.....	87,126	222,085	38,929	60,496
Canada bluegrass.....	664,212	489,477	861,179	1,576,365
Bromus inermis.....	340,842	125,898	287,097	175,641
Western rye grass.....	252,070	252,257	178,511	246,814
Meadow fescue.....	13,391	24,004	11,025	12,393
Common vetch.....	301,292	826,737	362,932	519,672

Kind of Seed.	Stock on hand.		Total Receipts.	
	January 1, 1919.	February 1, 1918.	6 months ended Jan. 1, 1919.	7 months ended Feb. 1, 1918.
	lb.	lb.	lb.	lb.
Hairy vetch.....	29,519	98,644	44,805	96,773
Common millet ¹	318,616	131,948	166,285	108,089
Foxtail millet.....	517,692	250,462	445,135	312,400
Barnyard millet.....	49,355	53,064	2,000	22,125
Rape.....	235,989	201,838	124,293	162,813
Seed corn.....	1,652,750	895,652	1,324,962	451,186
VEGETABLE SEED STOCKS AND RECEIPTS.				
Beans, Dwarf snap.....	406,783	386,851	278,079	354,426
Beans, Garden pole.....	29,386	30,848	10,585	10,280
(not including Lima)				
Beet, Garden (O.S.) ²	40,072	55,635	6,828	30,195
Beet, Garden (Am.) ²	38,178	17,608	17,779	13,250
Beet, Mangel (O.S.).....	288,510	378,248	37,241	117,812
Beet, Mangel (Am.).....	7,439	4,611	10,487	3,080
Beet, Sugar (O. S.).....	710,770	798,728	293,675	581
Beet, Sugar (Am.).....	120,210	49,906	68,956	49,140
Cabbage (O.S.).....	7,963	13,513	919	2,328
Cabbage (Am.).....	11,803	7,874	6,105	8,211
Carrot.....	62,331	61,376	36,847	38,681
Cauliflower.....	705	1,343	305	537
Celery (O. S.).....	1,343	1,916	56	345
Celery (Am.).....	4,133	1,441	1,127	1,162
Cucumber.....	48,444	51,131	24,752	25,749
Kale.....	2,766	2,555	702	1,113
Lettuce.....	29,238	30,995	15,658	19,694
Muskmelon.....	23,661	4,336	1,362	2,013
Watermelon.....	8,377	8,943	3,554	4,565
Onion seed (O. S.).....	2,017	3,017	387	1,488
Onion seed (Am.).....	56,879	61,247	45,719	48,422
Onion sets.....	1,507,304	1,972,292	1,401,229	1,924,805
Parsley.....	4,899	4,154	1,818	2,106
Parsnip.....	5,381	7,414	5,643	7,870
Peas, Garden.....	11,458,522	5,420,063	21,604,528	9,256,102
Pepper.....	773	477	347	263
Pumpkin.....	11,088	8,458	2,084	3,249
Radish (O. S.).....	23,159	42,101	3,407	6,557
Radish (Am.).....	41,227	18,983	35,393	30,542
Salsify.....	979	1,119	428	887
Spinach (O. S.).....	11,341	6,717	7,297	4,567
Spinach (Am.).....	7,958	2,172	8,928	2,703
Squash, Summer.....	4,781	4,509	887	2,443
Squash, Winter.....	4,066	5,811	1,684	2,372
Sweet corn.....	230,130	207,819	134,171	108,658
Tomato.....	6,509	7,044	3,102	3,241
Turnip, English.....	102,944	81,247	16,462	35,190
Turnip, Swede (O. S.).....	271,358	374,750	65,158	201,143
Turnip, Swede (Am.).....	9,838	2,467	8,209	1,609

¹Common millet in this survey corresponds with broom-corn millet; foxtail millet includes Golden, Siberian, Hungarian, and common millets, as these terms are used in the seed surveys of the United States.

²In the above list, the abbreviation "O.S." means seeds from overseas; "Am." means seeds grown on the American continent.

CROP REPORTS FROM OTHER COUNTRIES.

England and Wales.—The Board of Agriculture reports (February 1) that the continual rains, followed by frost at the end of the month, hindered field work much during January. Fair progress was made on light land, and the last few days of the month gave opportunity for carting manure in some districts, but otherwise work is distinctly behindhand. Wheat appears to have suffered somewhat on very heavy or wet land, but is elsewhere satisfactory; autumn-sown oats and beans seem to be good strong plants almost everywhere. The condition of ewes is reported as fair to good, the wet weather having proved trying. Lambing prospects are considered fairly satisfactory on the whole. The Dorset Horn flocks have practically finished lambing; the fall of lambs is reported as moderate, but the mortality is light. Live stock are generally in fair condition. In most parts of the country, but not all, the supply of winter keep is rather short. The steady demobilization of agricultural labourers from the Army is relieving the scarcity of farm hands, and in several parts of the country the supply has been nearly, if not quite, sufficient for the requirements of a wet month. Skilled labour is, however, still scarce. Owing to the lateness of the season and the deficiency of labour, proper cultivation in the autumn was frequently neglected, and it is expected that the preparation of the land for the spring crops will require more labour than usual.

Ireland.—The production in 1918 of the Irish potato crop is reported as 144,233,136 bushels from 701,847 acres, as compared with 155,033,627 bushels from 709,263 acres in 1917 and 90,843,917 bushels from 586,308 acres in 1916. The average yield per acre in 1918 was 205·33 bushels as against 220·26 bushels in 1917 and 205·33 bushels, the average for the ten years 1908-17. The produce in 1918 of cereal crops with comparative figures for 1917 in brackets was in bushels as follows: Wheat, 5,690,434 (4,572,857); oats, 95,434,281 (89,094,552); barley, 8,359,416 (7,873,431). Of turnips the production in 1918 was 197,994,368 bushels, as compared with 173,659,469 bushels in 1917; of mangolds 76,182,715 bushels, as against 68,473,456 bushels and of cabbage 380,119 short tons against 274,925.

India.—The Indian Department of Statistics reported (January 31) that the total area sown to wheat for 1918-19 is estimated at 23,472,000 acres, as against 35,497,000 acres, the finally revised area for 1917-18. The estimate for 1918-19, which is the first wheat forecast of the season, shows therefore a decrease of 12,025,000 acres, or 34 p.c. as compared with the area sown in 1917-18. This large decrease is due to the scanty rainfall of September and October, and also to the prevalence of influenza which interfered with sowing operations.

France.—The French Department of Agriculture has published the following estimate of the areas sown to fall crops for 1919 and their condition on January 1, as compared with 1918:—

Crops.	1918.	1919.	1918	1919.
	acres.	acres.	condition.	condition.
Wheat.....	11,359,362	11,086,977	69	71
Meslin.....	222,814	203,987	71	72
Rye.....	1,955,241	1,813,980	69	73
Barley.....	249,206	255,967	71	72
Oats.....	1,710,520	1,651,647	70	72

The figures 60 to 80 represent a condition that is "fairly good."

For 1919 it is necessary to add the sowings in Alsace and Lorraine as follows: Wheat 166,623 acres, rye 130,273 acres, barley 9,069 acres, oats 20,584 acres, making the total for France: Wheat 11,253,600 acres, rye 1,944,253 acres, barley 265,036 acres, oats 1,672,231 acres. The area under wheat shows a decrease as compared with 1918, the chief reason for this being that the fall of 1918 was not so favourable as that of 1917.

THE WEATHER DURING JANUARY.

The Dominion Meteorological Office reports that the mean temperature was above the average throughout the Dominion, with the greatest departure from normal—from 18° to 20° in Alberta and southwestern Saskatchewan. To the eastward this wide positive departure diminished gradually to between 9° and 6° in Ontario, and to about 3° in the Maritime Provinces. To the westward the decrease in positive departure was more rapid, and the interior plateaus of British Columbia were but 5° above average, and the coast line about 3° above. Precipitation was very generally deficient, except near the British Columbia coast, where there were many heavy rainstorms, and in the Gulf of St. Lawrence, where there was a very heavy snow-storm on the 24th. In Nova Scotia and southern New Brunswick the precipitation was nearly equally divided between rain and snow. In northern New Brunswick and eastern Quebec it was wholly in the form of snow, while in western Quebec and southern Ontario it was quite light, and part snow and part rain. In the western provinces a few light snowfalls occurred in Manitoba and Saskatchewan, but over a large part of Alberta there was practically little, if any, either snow or rain. The rainfall in the lower mainland of British Columbia and Vancouver Island was very heavy, but in the upper mainland, the precipitation, mostly as snow, was not excessive.

INTERNATIONAL INSTITUTE OF AGRICULTURE.

According to a cablegram received by the Commissioner of the International Institute of Agriculture, Department of Agriculture, Ottawa, on March 25, the area sown to wheat for 1919 in France is 11,086,000 acres. The sowings in Alsace-Lorraine are: wheat 167,000 acres and rye 130,000 acres. In Japan the area sown to wheat for 1919 is 1,362,000 acres against 1,236,000 acres in 1918 and to barley 2,931,000 acres against 2,738,000 acres.

The following are cabled as the latest figures of the total production of 1918 for the crops and countries named, as compared with 1917 and with the average of the five years 1912-16. It will be noted that the production of Germany re-appears in the list; rye and potatoes are especially large crops in that country.

Crops.	No. of countries.	1917.	1918.	Average 1912-16.
		000 bush.	000 bush.	000 bush.
Wheat.....	19 ¹	1,918,526	2,361,705	2,290,694
Rye.....	12 ²	409,069	496,200	542,295
Barley.....	17 ³	681,078	770,980	730,095
Oats.....	16 ⁴	2,587,466	2,708,977	2,567,751
Corn.....	7 ⁵	3,185,206	2,688,314	2,903,100
Flax seed.....	7 ⁶	37,048	43,754	52,213
Potatoes.....	12 ⁷	2,798,430	2,493,400	3,044,444
		000	000	000
Sugar beets.....	5 ⁸	short tons 19,510	short tons 19,061	short tons 21,708

¹Canada, Denmark, Egypt, France, Germany, Great Britain and Ireland, India, Italy, Japan, Luxemburg, Morocco, Netherlands, Norway, Spain, Sweden, Switzerland, Tunis, United States.

²Canada, Denmark, Germany, Ireland, Italy, Luxemburg, Netherlands, Norway, Spain, Sweden, Switzerland, United States.

³Same countries as for rye, plus Egypt, Great Britain, Japan, Morocco and Tunis.

⁴Same countries as for barley, less Egypt.

⁵Canada, Italy, Japan, Morocco, Spain, Switzerland, United States.

⁶Canada, India, Italy, Morocco, Netherlands, Tunis, United States.

⁷Canada, France, Great Britain, Germany, Ireland, Italy, Japan, Luxemburg, Netherlands, Norway, Sweden, United States.

⁸Canada, Germany, Netherlands, Sweden, United States.

Crop conditions are reported as generally good in Great Britain, Ireland and Tunis, and average in Italy and Japan.

INSPECTION AND SHIPMENTS OF GRAIN, 1918.

According to the Weekly Bulletin for January 27, 1919, of the Department of Trade and Commerce, the number of cars and total quantities of grain inspected at Winnipeg and other points in the western division for the four months ended December 31, 1918, as compared with the corresponding periods 1915, 1916 and 1917, were as follows:—

Grain.	Four months ended Dec. 31, 1915.		Four months ended Dec. 31, 1916.		Four months ended Dec. 31, 1917.		Four months ended Dec. 31, 1918.	
	cars.	bushels.	cars.	bushels.	cars.	bushels.	cars.	bushels.
Wheat.....	156,449	176,005,125	84,247	101,096,400	90,390	103,948,500	74,574	93,217,500
Oats.....	21,341	40,547,900	20,018	41,036,900	12,440	24,268,000	6,339	13,311,900
Barley.....	5,276	6,858,800	4,984	6,728,400	4,148	5,392,400	4,253	5,741,550
Flaxseed....	1,423	1,458,575	2,608	2,999,200	2,366	2,602,600	1,364	1,361,000
Rye.....	76	76,000	98	98,000	298	298,000	716	787,600
Speltz.....	1	1,000	—	—	—	—	—	—
Screenings...	107	107,000	188	188,000	430	430,000	300	300,000
Total.....	184,673	225,054,400	112,143	152,146,900	110,072	136,939,500	87,546	114,723,550

The shipments of grain from Fort William and Port Arthur for the four months ended December 31, 1915, 1916, 1917 and 1918 were as follows:—

Grain.	Four months ended Dec. 31, 1915.	Four months ended Dec. 31, 1916.	Four months ended Dec. 31, 1917.	Four months ended Dec. 31, 1918.
	bushels.	bushels.	bushels.	bushels.
Wheat.....	140,989,805	61,681,973	91,729,372	55,120,888
Oats.....	22,278,121	20,452,027	12,977,175	2,943,183
Barley.....	4,199,721	3,949,731	2,997,969	1,020,060
Flaxseed.....	1,761,267	2,503,243	1,928,487	758,060
Total.....	169,228,914	88,586,974	109,633,003	59,842,191

PRICES OF AGRICULTURAL PRODUCE, 1918-19.

I. Weekly Range of Cash Prices per bushel of Canadian Grain at Winnipeg and Fort William, 1919-19.

Grain and Grade.	Feb. 1.		Feb. 8.		Feb. 15.		Feb. 22.		Mar. 1.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—										
No. 1 Nor.....	2 24½	—	2 24½	—	2 24½	—	2 24½	—	2 24½	—
No. 2 Nor.....	2 21½	—	2 21½	—	2 21½	—	2 21½	—	2 21½	—
No. 3 Nor.....	2 17½	—	2 17½	—	2 17½	—	2 17½	—	2 17½	—
No. 4.....	2 11½	—	2 11½	—	2 11½	—	2 11½	—	2 11½	—
No. 5.....	1 99½	—	1 99½	—	1 99½	—	1 99½	—	1 99½	—
No. 6.....	1 90½	—	1 90½	—	1 90½	—	1 90½	—	1 90½	—
Feed.....	1 62	—1 65	1 60	—	1 55	—	1 57	—1 60	1 60	—1 65
Oats—										
No. 2 C.W.....	0 63	—0 65	0 64½	—0 67½	0 66½	—0 70½	0 70½	—0 72½	0 69½	—0 72½
No. 3 C.W.....	0 57½	—0 59½	0 57½	—0 60	0 59½	—0 63	0 62	—0 63½	0 63½	—0 63½
No. 1 Feed Ex.....	0 60	—0 61½	0 59½	—0 62	0 61½	—0 65½	0 63½	—0 65½	0 64½	—0 65½
No. 1 Feed.....	0 56½	—0 58½	0 56½	—0 59	0 57½	—0 61	0 62	—0 61½	0 61½	—0 61½
No. 2 Feed.....	0 53½	—0 54½	0 52½	—0 55	0 53½	—0 57½	0 56½	—0 57½	0 57½	—0 58½
Barley—										
No. 3 C.W.....	0 75½	—0 79½	0 76½	—0 81	0 79½	—0 83½	0 82	—0 86	0 85½	—0 86½
No. 4 C.W.....	0 70½	—0 74½	0 71½	—0 76	0 74½	—0 78½	0 77	—0 81	0 79½	—0 81
Rejected.....	0 60½	—0 66½	0 63	—0 68	0 67½	—0 71	0 69½	—0 74	0 73½	—0 74½
Feed.....	0 59½	—0 66½	0 63	—0 68	0 67½	—0 71	0 69½	—0 74	0 72½	—0 73½
Flax—										
No. 1 N.W.C.....	2 91½	—3 02	2 95½	—3 03	3 04½	—3 14½	3 14	—3 31½	3 26½	—3 34½
No. 2 C.W.....	2 87½	—2 98	2 92½	—2 99	3 01½	—3 11	3 09½	—3 23½	3 17½	—3 25½
No. 3. C.W.....	2 69½	—2 80	2 73	—2 81	2 81½	—2 91½	2 90	—3 02	2 98½	—3 05½

II. Monthly Range of Prices per bushel of Grain at Selected Markets in the United States, 1918-19.

(From the Monthly Crop Report of the U.S. Dept. of Agriculture.)

Grade and Market.	October.		November.		December.		January.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat, Red Winter, No. 2—								
St. Louis.....	2 21	—2 24½	2 21	—2 28	2 25½	—2 48½	2 36	—2 55
Chicago.....	2 23	—2 25	2 23	—2 26½	2 26½	—2 42	2 23	—2 32
New York (f.o.b. afloat).....	2 38	—	2 38	—	2 38	—	2 38	—
Corn, No. 2 mixed—								
St. Louis.....	1 45	—1 50	1 42	—1 47	1 45	—1 56	1 56	—
Corn No. 2—								
Chicago.....	1 35	—1 45	1 30	—1 45	1 35	—1 55	1 22	—1 62
Oats, No. 2—								
St. Louis.....	0 67	—0 71	0 67	—0 73	0 71	—0 76	0 56	—0 75
Chicago.....	0 66½	—0 71½	0 67½	—0 77½	0 68	—0 74½	0 54	—0 76½
Rye No. 2—								
Chicago.....	1 61	—1 64	1 60½	—1 75½	1 54	—1 64	1 57	—1 65

III. Range of Prices of Imported Grain and Flour at British Markets, 1918-1919.

(From the "Mark Lane Express", London England, Mark Lane, London, E.C.)

Description.	Dec. 2-30.		Jan. 6-13.		Jan. 20.		Jan. 27.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—								
Canadian No. 1.....	2 48	—	2 48	—	2 48	—	2 48	—
American Spring.....	2 48	—	2 48	—	2 48	—	2 48	—
“ hard winter.....	2 51	—	2 51	—	2 48	—	2 48	—
“ red winter.....	2 48	—	2 48	—	2 48	—	2 48	—
Californian.....	2 48	—	2 48	—	2 48	—	2 48	—
Australian.....	2 53½	—	2 53½	—	2 53½	—	2 53½	—
Indian.....	2 53½	—	2 53½	—	2 53½	—	2 53½	—
Argentine.....	2 49½	—	2 49½	—	2 51	—	2 49½	—
Oats—								
Canadian.....	1 65½	—1 68	1 65½	—1 68	1 65½	—1 68	1 65½	—1 68
American.....	1 62½	—1 65½	1 62½	—1 65½	1 62½	—1 65½	1 62½	—1 65½
Flour—								
Canadian spring.....	12 21	—12 59	12 21	—12 59	11 25	—	11 25	—
American spring.....	12 21	—12 59	12 21	—12 59	11 25	—	11 25	—
American winter.....	12 21	—12 59	12 21	—12 59	11 25	—	11 25	—
Australian.....	—	—	12 59	—	11 25	—	11 25	—

III. Range of Prices of Imported Grain and Flour at British Markets, 1918-19—con.

LIVERPOOL.

(From "Broomhalls' Corn Trade News," Liverpool.)

Description.	Dec. 3-31.	Jan. 7.	Jan. 14-28.
	\$ c.	\$ c.	\$ c. \$ c.
Wheat—			
Nor. Man. No. 1.....	2 52	2 52 $\frac{1}{2}$ —	— 2 52 $\frac{1}{2}$
" " 2.....	2 52	2 52 $\frac{1}{2}$	— 2 52 $\frac{1}{2}$
" " 4.....	2 52	2 52 $\frac{1}{2}$	— 2 52 $\frac{1}{2}$
Red Winter No. 1.....	2 52	2 52 $\frac{1}{2}$	— 2 52 $\frac{1}{2}$
Special red winter new.....	2 52	2 52 $\frac{1}{2}$	— 2 52 $\frac{1}{2}$
Australian.....	2 52	2 52 $\frac{1}{2}$	— 2 52 $\frac{1}{2}$
Flour—			
Manitoba.....	12 59	12 41 —12	59 11 25
Kansas.....	12 59	12 41 —12	59 11 25

IV. Average Prices of British Grown Grain, 1918-19.

(From the "London Gazette" as published pursuant to s. 8 of the Corn Returns Act, 1882.)

Week ended.	Wheat.		Barley.		Oats.	
	per quarter.	per bushel.	per quarter.	per bushel.	per quarter.	per bushel.
	s. d.	\$ c.	s. d.	\$ c.	s. d.	\$ c.
December 7.....	72 4	2.200	62 6	1.825	51 4	1.360
" 14.....	72 3	2.198	62 7	1.827	51 4	1.360
" 21.....	72 4	2.200	62 3	1.820	50 5	1.335
" 28.....	72 3	2.198	62 3	1.820	50 6	1.338
Average.....	72 4	2.199	62 5	1.823	50 11	1.348
January 4.....	72 2	2.195	62 3	1.818	48 8	1.290
" 11.....	72 6	2.205	62 5	1.823	49.8	1.316
" 18.....	72 7	2.208	62 3	1.818	50 0	1.325
" 25.....	72 7	2.208	61 10	1.806	49 6	1.351
Average.....	72 6	2.204	62 2	1.816	49 6	1.321

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Department of Trade and Commerce

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EXPORT DIRECTORY OF CANADA.

CANADA AND THE BRITISH WEST INDIES.

CANADA, THE COUNTRY OF THE TWENTIETH CENTURY.

GRAIN INSPECTION IN CANADA.

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COMMISSIONERS.

REPORT OF THE BOARD OF GRAIN COMMISSIONERS.

MAIL SUBSIDIES AND STEAMSHIP SUBVENTIONS.

PATENT OFFICE RECORD (Monthly).

RULES AND FORMS OF THE CANADIAN PATENT OFFICE.

FOOD INSPECTION BULLETINS.

For List of Publications of the Dominion Bureau of Statistics, see page iv of cover.

PUBLICATIONS

OF THE

DOMINION BUREAU OF STATISTICS.

ANNUAL REPORT OF THE TRADE OF CANADA.

MONTHLY REPORT OF THE TRADE OF CANADA.

THE CANADA YEAR BOOK, 1916-17, with Map of Canada and Newfoundland, a Statistical Summary of the Progress of Canada and numerous illustrations pp. 1-xvi, 1-720.

Contents: I Natural Resources of the Dominion of Canada, by WATSON GRIFFIN, Department of Trade and Commerce, Ottawa, with 10 illustrations; II Physical Characteristics of Canada, including Geographical Features; Economic Geology in Canada, 1917, by WYATT MALCOLM, Department of Mines, Ottawa; III Area and Population; IV Education; V Climate and Meteorology, with Diagram; VI Production; VII Trade and Commerce; VIII Transportation and Communications; IX Labour; X Finance; XI Administration; XII Legislation and Principal Events of the Years 1916 and 1917; XIII Extracts from the Canada Gazette 1916 and 1917.

THE CANADA YEAR BOOK. Second Series 1905-15. [1910, 1913 and 1916-17, out of print.]

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. Nos. I to XIX.

REPORT OF THE FIFTH CENSUS OF CANADA, 1911.

Vol. I, 1912. Areas and Population by Provinces, Districts and Subdistricts with Introduction. Tables I to XV, pp. i-viii, 1-623. [Out of print.]

Vol. II, 1913. Religions, Origins, Birthplace, Citizenship, Literacy and Infirmities by Provinces, Districts and Subdistricts, with Introduction. Tables I-XLVI, pp. i-iv, 1-634.

Vol. III, 1913. Manufactures for 1910 as enumerated in June 1911, with Introduction. Tables I-XX, pp. i-xvi, 1-432.

Vol. IV, 1914. Agriculture with Introduction. Tables 1-90; I-XXXV, pp. i-xcv, 1-428. Diagrams, 5 pp. [Out of print.]

Vol. V, 1915. Forest, Fishery, Fur and Mineral Production, with Introduction. Tables 1-51; I-XXVI, pp. i-l, 1-171.

Vol. VI, 1916. Occupations of the People, with Introduction. Tables 1-25; I-VI, i-xxi, 1-469. [Out of print.]

REPORT OF THE CENSUS OF POPULATION AND AGRICULTURE OF THE PRAIRIE PROVINCES, 1916. January 12, 1918. Tables 1-54; I-XXVI, pp. i-lxiv, 1-356.

SPECIAL REPORT ON THE FOREIGN-BORN POPULATION. Abstracted from the Records of the Fifth Census of Canada. June, 1911. 23 tables. 62 pp. 1915.

REPORT OF THE POSTAL CENSUS OF MANUFACTURES, 1916. pp. i-xi; 1-263, 1917.

REPORT ON THE PRODUCTION OF CREAMERIES AND CHEESE FACTORIES, 1915 and 1916. pp. 1-24, 1917.

REPORT ON THE CENSUS OF INDUSTRY, 1917. Part I. (AGRICULTURAL STATISTICS) Part II. (DAIRYING STATISTICS), in the press; Part III. (FISHERY STATISTICS) Other Parts in preparation.

CRIMINAL STATISTICS. Annual Report for Year ended September 30, 1915. pp. i-xliv, 1-398.

CENSUS AND STATISTICS MONTHLY, Vols. 1-9, 1908-1916; Vol. 10, Nos. 101-103, 1917. MONTHLY BULLETIN OF AGRICULTURAL STATISTICS, Vols. 10 and 11, Nos. 104-124, 1917-18; Vol. 12, Nos. 125-126, 1919.

For List of Publications of the Department of Trade and Commerce, see page iii of cover.

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Vol. 12

No. 127

CANADA
DOMINION BUREAU OF STATISTICS

Quarterly
(MONTHLY) BULLETIN
OF
AGRICULTURAL STATISTICS

March, 1919.

Published by Authority of the Right Hon. Sir George E. Foster,
G.C.M.G., M.P., Minister of Trade and Commerce.



OTTAWA
J. DE LABROQUERIE TACHÉ
Printer to the King's Most Excellent Majesty
1919

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MONTHLY BULLETIN OF AGRICULTURAL STATISTICS

Vol. 12

OTTAWA, MARCH, 1919.

No. 127

DOMINION STATISTICIAN: R. H. COATS, B.A., F.S.S. EDITOR: ERNEST H. GODFREY, F.S.S.
DOMINION BUREAU OF STATISTICS, OTTAWA, CANADA.

AVERAGE VALUES OF FIELD CROPS, 1908-18.

Compiled from the Returns of Crop Correspondents.

From the time of the institution of the present Crop Reporting Service of the Dominion Government in 1908, annual returns have been made by Crop Correspondents of the prices received by farmers for each of the field crops of Canada, and the averages compiled from these returns have been published annually as part of the final crop records of each year.

In the table on pages 52 to 56 these records are brought together for greater convenience of reference, and, in addition, the annual averages for (1) the five years 1908-12, (2) the five years 1913-17 and (3) the ten years 1908-17 have been calculated and are included.

Examining this table in respect of the principal crops, and for the whole of Canada, we notice the great difference between the prices before and those during the war. In 1913 the average price of spring wheat for Canada was 66 cents per bushel, the lowest average for the pre-war period being 60 cents per bushel in 1912, whilst the highest average was 83 cents per bushel in 1909. In 1914 the price rose to \$1.24 per bushel and in 1917 and 1918 the price was \$1.93 and \$2.02, respectively. For the first five years (1908-12) the average was 69 cents per bushel, and for the second five years (1913-17) it was \$1.17. For the whole period of ten years (1908-17) it was 98 cents.

The price of oats was lowest in 1912 and 1913, viz. 32 cents per bushel in both years; the highest price in these years was 39 cents in 1908. In 1914 the price became 48 cents, and by 1918 this had risen to 78 cents per bushel. The first quinquennial average was 35 cents and the second was 47 cents, whilst for the ten-year period the average price per bushel was 42 cents. Barley, which in 1913 was 42 cents, the lowest price of the five-year period 1908-13, rose to 60 cents in 1914, to \$1.08 in 1917 and to \$1 in 1918. The five-year average was 47 cents, 1908-12, 69 cents, 1913-17, and 59 cents for the decennial period 1908-17. The flax crop rose from 97 cents in 1913 to \$3.13 in 1918, the quinquennial averages being \$1.17 and \$1.47 and the decennial average \$1.32. Potatoes, which were 49 cents per bushel in 1913 and 1914 and 59 cents in 1911 rose to 60 cents in 1915, 81 cents in 1916 and \$1.01 in 1917, receding to 98 cents in 1918. For the first five years the average was 46 cents, for the second, 68 cents and for the ten-year period it was 56 cents. In 1918 the average price of hay and clover was \$16.25, the highest during the eleven years; the lowest price was \$9.85 in 1910. For the five years 1908-12 the price was \$11.48; for the five years 1913-17 it was \$12.23 and for the ten years 1908-17 it was \$11.86.

Dominion Bureau of Statistics,
Ottawa, April 14, 1919.

ERNEST H. GODFREY,
Editor.

Average Prices received by Farmers for Field Crops, 1908-1918.

Crops.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	5 yr. Average 1908-12.	5 yr. Average 1913-17.	10 yr. Average 1908-17.
Canada.														
Fall wheat.....	per bush. .86	per bush. .98	per bush. .86	per bush. .83	per bush. .84	per bush. .80	per bush. 1.05	per bush. .90	per bush. 1.54	per bush. 2.08	per bush. 2.08	per bush. .86	per bush. 1.20	per bush. 1.04
Spring wheat.....	per bush. .80	per bush. .83	per bush. .73	per bush. .62	per bush. .60	per bush. .66	per bush. 1.24	per bush. .91	per bush. 1.29	per bush. 1.93	per bush. 2.02	per bush. .69	per bush. 1.17	per bush. .98
All wheat.....	per bush. .75	per bush. .75	per bush. .64	per bush. .62	per bush. .67	per bush. .67	per bush. 1.22	per bush. .91	per bush. 1.31	per bush. 1.94	per bush. 2.02	per bush. .71	per bush. 1.17	per bush. .99
Oats.....	per bush. .39	per bush. .35	per bush. .35	per bush. .36	per bush. .32	per bush. .82	per bush. .48	per bush. .36	per bush. .51	per bush. .69	per bush. .78	per bush. .85	per bush. .47	per bush. .42
Barley.....	per bush. .46	per bush. .46	per bush. .48	per bush. .56	per bush. .45	per bush. .42	per bush. .60	per bush. .52	per bush. .82	per bush. 1.08	per bush. 1.00	per bush. .47	per bush. .69	per bush. .59
Rye.....	per bush. .74	per bush. .73	per bush. .68	per bush. .76	per bush. .72	per bush. .66	per bush. .83	per bush. .77	per bush. 1.11	per bush. 1.62	per bush. 1.49	per bush. .73	per bush. 1.08	per bush. .93
Peas.....	per bush. .85	per bush. .89	per bush. .87	per bush. 1.02	per bush. 1.26	per bush. 1.11	per bush. 1.46	per bush. 1.65	per bush. 2.22	per bush. 3.54	per bush. 2.54	per bush. .95	per bush. 1.91	per bush. 1.29
Beans.....	per bush. 1.59	per bush. 1.42	per bush. 1.72	per bush. 1.93	per bush. 2.18	per bush. 1.88	per bush. 2.31	per bush. 3.05	per bush. 5.40	per bush. 7.45	per bush. 5.41	per bush. 1.74	per bush. 4.31	per bush. 2.84
Buckwheat.....	per bush. .59	per bush. .58	per bush. .57	per bush. .64	per bush. .62	per bush. .64	per bush. .72	per bush. .75	per bush. 1.07	per bush. 1.46	per bush. 1.58	per bush. .60	per bush. .90	per bush. .75
Mixed grains.....	per bush. .53	per bush. .56	per bush. .51	per bush. .61	per bush. .58	per bush. .55	per bush. .66	per bush. .57	per bush. .88	per bush. 1.16	per bush. 1.14	per bush. .56	per bush. .75	per bush. .65
Flax.....	per bush. .97	per bush. 1.25	per bush. 2.06	per bush. 1.51	per bush. .90	per bush. .97	per bush. 1.03	per bush. 1.51	per bush. 2.04	per bush. 2.65	per bush. 3.13	per bush. 1.17	per bush. 1.47	per bush. 1.32
Corn for husking.....	per bush. .52	per bush. .66	per bush. .53	per bush. .64	per bush. .62	per bush. .64	per bush. .71	per bush. .71	per bush. 1.07	per bush. 1.84	per bush. 1.75	per bush. .60	per bush. .88	per bush. .71
Potatoes.....	per bush. .47	per bush. .37	per bush. .46	per bush. .59	per bush. .44	per bush. .49	per bush. .49	per bush. .60	per bush. .81	per bush. 1.01	per bush. .98	per bush. .46	per bush. .68	per bush. .56
Turnips, etc.....	per bush. .17	per bush. .17	per bush. .23	per bush. .24	per bush. .24	per bush. .28	per bush. .27	per bush. .24	per bush. .39	per bush. .46	per bush. .43	per bush. .20	per bush. .32	per bush. .25
Hay and clover.....	per ton. 9.96	per ton. 11.14	per ton. 9.85	per ton. 11.64	per ton. 11.09	per ton. 11.48	per ton. 14.23	per ton. 14.37	per ton. 11.60	per ton. 10.33	per ton. 16.25	per ton. 11.48	per ton. 12.23	per ton. 11.86
Fodder corn.....	per bush. 4.03	per bush. 5.43	per bush. 4.70	per bush. 4.87	per bush. 4.93	per bush. 4.78	per bush. 4.91	per bush. 4.91	per bush. 4.92	per bush. 5.14	per bush. 6.15	per bush. 4.79	per bush. 4.92	per bush. 4.86
Sugar beets.....	per bush. 5.31	per bush. 5.81	per bush. 5.83	per bush. 6.59	per bush. 5.00	per bush. 6.12	per bush. 5.99	per bush. 5.50	per bush. 6.20	per bush. 6.75	per bush. 10.25	per bush. 5.71	per bush. 6.08	per bush. 5.87
Alfalfa.....	per bush. —	per bush. —	per bush. 10.16	per bush. 11.51	per bush. 12.00	per bush. 11.85	per bush. 14.17	per bush. 12.68	per bush. 10.63	per bush. 11.59	per bush. 17.84	per bush. 9.91	per bush. 12.11	per bush. 11.90
Prince Edward Isl.														
Spring wheat.....	per bush. .94	per bush. .98	per bush. .96	per bush. .99	per bush. .96	per bush. 1.00	per bush. 1.04	per bush. 1.08	per bush. 1.52	per bush. 2.09	per bush. 2.22	per bush. .97	per bush. 1.30	per bush. 1.16
Oats.....	per bush. .40	per bush. .40	per bush. .37	per bush. .43	per bush. .43	per bush. .37	per bush. .48	per bush. .45	per bush. .61	per bush. .80	per bush. .77	per bush. .41	per bush. .54	per bush. .49
Barley.....	per bush. .60	per bush. .59	per bush. .57	per bush. .62	per bush. .65	per bush. .59	per bush. .64	per bush. .71	per bush. .95	per bush. 1.22	per bush. 1.25	per bush. .60	per bush. .81	per bush. .69
Peas.....	per bush. 1.00	per bush. 1.00	per bush. .90	per bush. 1.17	per bush. 1.14	per bush. .64	per bush. 2.00	per bush. 2.33	per bush. 2.19	per bush. 2.86	per bush. 2.90	per bush. 1.01	per bush. 2.13	per bush. 1.23
Buckwheat.....	per bush. .54	per bush. .54	per bush. .60	per bush. .61	per bush. .64	per bush. .64	per bush. .70	per bush. .75	per bush. 1.00	per bush. 1.32	per bush. 1.44	per bush. .45	per bush. .88	per bush. .66
Mixed grains.....	per bush. .51	per bush. .51	per bush. .40	per bush. .50	per bush. .49	per bush. .48	per bush. .56	per bush. .55	per bush. .75	per bush. .98	per bush. 1.04	per bush. .49	per bush. .66	per bush. .57
Potatoes.....	per bush. .25	per bush. .20	per bush. .33	per bush. .36	per bush. .26	per bush. .28	per bush. .23	per bush. .46	per bush. .52	per bush. .75	per bush. .63	per bush. .27	per bush. .44	per bush. .35
Turnips, etc.....	per bush. .18	per bush. .18	per bush. .18	per bush. .21	per bush. .21	per bush. .24	per bush. .22	per bush. .26	per bush. .28	per bush. .31	per bush. .29	per bush. .19	per bush. .26	per bush. .23
Hay and clover.....	per ton. 9.70	per ton. 9.20	per ton. 8.30	per ton. 10.68	per ton. 11.64	per ton. 10.76	per ton. 13.04	per ton. 12.18	per ton. 11.56	per ton. 12.67	per ton. 14.17	per ton. 9.83	per ton. 12.03	per ton. 10.95
Fodder corn.....	per bush. 3.00	per bush. 3.10	per bush. 2.00	per bush. 3.00	per bush. 4.00	per bush. 2.50	per bush. 4.00	per bush. 3.00	per bush. 2.50	per bush. 5.00	per bush. 9.00	per bush. 3.20	per bush. 3.19	per bush. 3.20

Nova Scotia.									
Spring wheat.....	per bush. 1.06	per bush. 1.18	per bush. 1.12	per bush. 1.10	per bush. 1.08	per bush. 1.14	per bush. 1.25	per bush. 1.21	per bush. 2.34
Oats.....	per bush. .52	per bush. .51	per bush. .53	per bush. .53	per bush. .53	per bush. .53	per bush. .61	per bush. .50	per bush. .92
Barley.....	per bush. .73	per bush. .77	per bush. .77	per bush. .76	per bush. .77	per bush. .75	per bush. 1.05	per bush. 1.08	per bush. 1.34
Rye.....	per bush. .80	per bush. .85	per bush. .93	per bush. .93	per bush. .82	per bush. .87	per bush. 1.05	per bush. 1.08	per bush. 1.67
Peas.....	per bush. 1.20	per bush. 1.26	per bush. 1.58	per bush. 1.45	per bush. 1.82	per bush. 2.40	per bush. 2.04	per bush. 2.73	per bush. 4.44
Bears.....	per bush. 2.16	per bush. 2.29	per bush. 2.29	per bush. 2.03	per bush. 2.51	per bush. 66	per bush. 2.99	per bush. 3.87	per bush. 7.95
Buckwheat.....	per bush. .66	per bush. .63	per bush. .64	per bush. .65	per bush. .65	per bush. .66	per bush. .72	per bush. .72	per bush. .84
Mixed grains.....	per bush. .62	per bush. .63	per bush. .60	per bush. .67	per bush. .68	per bush. .65	per bush. .71	per bush. .71	per bush. .92
Potatoes.....	per bush. .42	per bush. .46	per bush. .40	per bush. .50	per bush. .52	per bush. .49	per bush. .58	per bush. .69	per bush. .92
Turnips, etc.....	per bush. .30	per bush. .20	per bush. .26	per bush. .33	per bush. .34	per bush. .36	per bush. .38	per bush. .42	per bush. .47
per ton. 10.32									
Hay and clover.....	per bush. 1.15	per bush. 1.11	per bush. 1.13	per bush. 1.07	per bush. .75	per bush. 1.12	per bush. 1.30	per bush. 1.26	per bush. 1.72
Fodder corn.....	per bush. .50	per bush. .49	per bush. .45	per bush. .50	per bush. .53	per bush. .51	per bush. .59	per bush. .55	per bush. .68
Alfalfa.....	per bush. .70	per bush. .69	per bush. .67	per bush. .41	per bush. .66	per bush. .69	per bush. 1.14	per bush. .85	per bush. 1.00
per bush. 1.18									
Peas.....	per bush. 2.09	per bush. 2.68	per bush. 2.36	per bush. 2.33	per bush. 2.84	per bush. 2.46	per bush. 2.89	per bush. 4.03	per bush. 6.11
Bears.....	per bush. .58	per bush. .55	per bush. .53	per bush. .57	per bush. .62	per bush. .54	per bush. .61	per bush. .73	per bush. .84
Buckwheat.....	per bush. .56	per bush. .61	per bush. .57	per bush. .59	per bush. .73	per bush. .59	per bush. .65	per bush. .71	per bush. .78
Mixed grains.....	per bush. .42	per bush. .34	per bush. .44	per bush. .52	per bush. .42	per bush. .44	per bush. .40	per bush. .64	per bush. .84
Potatoes.....	per bush. .30	per bush. .22	per bush. .26	per bush. .34	per bush. .32	per bush. .38	per bush. .35	per bush. .33	per bush. .45
Turnips, etc.....	per bush. 9.31	per bush. 10.26	per bush. 8.56	per bush. 8.13	per bush. 10.12	per bush. 10.91	per bush. 12.47	per bush. 14.00	per bush. 11.27
per ton. 3.50									
Hay and clover.....	per bush. 1.15	per bush. 1.17	per bush. 1.20	per bush. 1.18	per bush. 1.18	per bush. 1.21	per bush. 1.35	per bush. 1.34	per bush. 1.86
Fodder corn.....	per bush. .54	per bush. .47	per bush. .44	per bush. .53	per bush. .54	per bush. .54	per bush. .55	per bush. .55	per bush. .77
per bush. .74									
Peas.....	per bush. .87	per bush. .90	per bush. .93	per bush. 1.01	per bush. 1.06	per bush. 1.06	per bush. 1.09	per bush. 1.12	per bush. 1.15
Bears.....	per bush. 1.14	per bush. 1.25	per bush. 1.25	per bush. 1.37	per bush. 2.03	per bush. 1.97	per bush. 2.35	per bush. 2.47	per bush. 3.22
Buckwheat.....	per bush. 1.72	per bush. 1.88	per bush. 1.97	per bush. 1.97	per bush. 2.55	per bush. 2.31	per bush. 2.70	per bush. 3.17	per bush. 5.56
Mixed grains.....	per bush. .68	per bush. .64	per bush. .66	per bush. .74	per bush. .73	per bush. .75	per bush. .83	per bush. .84	per bush. 1.21
Potatoes.....	per bush. .70	per bush. .66	per bush. .61	per bush. .69	per bush. .67	per bush. .66	per bush. .77	per bush. .73	per bush. .99
Turnips, etc.....	per bush. 1.31	per bush. .88	per bush. .90	per bush. 1.01	per bush. 1.03	per bush. 1.95	per bush. 1.93	per bush. 2.18	per bush. 2.50
per ton. 3.50									
Hay and clover.....	per bush. .56	per bush. .34	per bush. .44	per bush. .67	per bush. .35	per bush. .46	per bush. .48	per bush. 1.52	per bush. 2.35
Fodder corn.....	per bush. .32	per bush. .22	per bush. .35	per bush. .37	per bush. .28	per bush. .36	per bush. .37	per bush. .36	per bush. .48
per ton. 3.50									
Quebec.									
Spring wheat.....	per bush. 1.15	per bush. 1.17	per bush. 1.20	per bush. 1.18	per bush. 1.18	per bush. 1.21	per bush. 1.35	per bush. 1.34	per bush. 1.86
Oats.....	per bush. .54	per bush. .47	per bush. .44	per bush. .53	per bush. .54	per bush. .54	per bush. .55	per bush. .55	per bush. .77
Barley.....	per bush. .74	per bush. .72	per bush. .71	per bush. .78	per bush. .79	per bush. .86	per bush. .86	per bush. .86	per bush. 1.15
Rye.....	per bush. .87	per bush. .90	per bush. .93	per bush. 1.01	per bush. 1.06	per bush. 1.06	per bush. 1.09	per bush. 1.12	per bush. 1.15
Peas.....	per bush. 1.14	per bush. 1.25	per bush. 1.25	per bush. 1.37	per bush. 2.03	per bush. 1.97	per bush. 2.35	per bush. 2.47	per bush. 3.22
Bears.....	per bush. 1.72	per bush. 1.88	per bush. 1.97	per bush. 1.97	per bush. 2.55	per bush. 2.31	per bush. 2.70	per bush. 3.17	per bush. 5.56
Buckwheat.....	per bush. .68	per bush. .64	per bush. .66	per bush. .74	per bush. .73	per bush. .75	per bush. .83	per bush. .84	per bush. 1.21
Mixed grains.....	per bush. .70	per bush. .66	per bush. .61	per bush. .69	per bush. .67	per bush. .66	per bush. .77	per bush. .73	per bush. .99
Potatoes.....	per bush. 1.31	per bush. .88	per bush. .90	per bush. 1.01	per bush. 1.03	per bush. 1.95	per bush. 1.93	per bush. 2.18	per bush. 2.50
Turnips, etc.....	per bush. .56	per bush. .34	per bush. .44	per bush. .67	per bush. .35	per bush. .46	per bush. .48	per bush. 1.52	per bush. 2.35
per ton. 3.50									
Hay and clover.....	per bush. .32	per bush. .22	per bush. .35	per bush. .37	per bush. .28	per bush. .36	per bush. .37	per bush. .36	per bush. .48
Fodder corn.....	per bush. .56	per bush. .34	per bush. .44	per bush. .67	per bush. .35	per bush. .46	per bush. .48	per bush. 1.52	per bush. 2.35
per ton. 3.50									

Average Prices received by Farmers for Field Crops, 1908-1918.—Con.

	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	5 yr. Average 1908-12.	5 yr. Average 1913-17.	10 yr. Average 1908-17.
Hay and clover....	per ton. 11-00	per ton. 10-00	per ton. 9-29	per ton. 10-17	per ton. 9-36	per ton. 12-08	per ton. 14-88	per ton. 15-89	per ton. 11-00	per ton. 9-58	per ton. 15-75	per ton. 11-41	per ton. 12-35	per ton. 11-92
Fodder corn....	4-57	5-03	4-77	4-80	3-79	5-20	6-40	6-39	5-75	5-00	7-42	4-66	5-60	5-10
Alfalfa.....	—	—	7-45	9-63	9-00	8-30	13-43	11-78	9-50	8-37	11-70	8-97	10-19	9-63
Ontario.														
Fall wheat.....	per bush. -89	per bush. 1-01	per bush. -88	per bush. -87	per bush. -92	per bush. -85	per bush. -86	per bush. -93	per bush. -93	per bush. -91	per bush. -91	per bush. -91	per bush. -91	per bush. -91
Spring wheat....	-87	-97	-89	-90	-88	-85	-86	-96	-96	-90	-90	-90	-90	-90
All wheat.....	-88	1-00	-88	-87	-91	-85	-85	-99	-99	-92	-92	-92	-92	-92
Oats.....	-40	-42	-36	-45	-41	-38	-49	-39	-39	-64	-72	-78	-41	-45
Barley.....	-53	-56	-53	-70	-61	-56	-64	-56	-99	-1-16	-1-55	-58	-74	-65
Rye.....	-72	-70	-66	-78	-75	-69	-85	-79	-1-17	-1-64	-1-55	-73	-99	-86
Peas.....	-81	-83	-83	-97	-1-16	-99	-1-32	-1-54	-2-06	-3-21	-2-24	-89	-1-69	-1-17
Beans.....	-1-51	-1-11	-1-67	-1-91	-2-13	-1-79	-2-24	-3-05	-5-34	-6-79	-4-66	-1-65	-3-38	-2-33
Buckwheat.....	-54	-56	-51	-61	-56	-60	-70	-70	-1-09	-1-37	-1-40	-56	-86	-70
Mixed grains....	-50	-54	-49	-59	-58	-53	-63	-54	-89	-1-12	-1-09	-54	-72	-62
Flax.....	-1-07	—	-1-64	-1-89	-1-62	-1-39	-1-70	-1-72	-2-78	-3-70	-3-41	-1-72	-1-95	-1-84
Corn for husking..	-50	6-50	-52	-63	-61	-63	-69	-69	-703	-1-72	-1-72	-58	-1-00	-74
Potatoes.....	-52	-42	-46	-80	-59	-65	-47	-76	-1-28	-1-00	-1-26	-54	-75	-63
Turnips, etc....	-14	-15	-20	-19	-19	-22	-21	-21	-36	-35	-32	-17	-25	-20
Hay and clover...	per ton. 11-02	per ton. 12-70	per ton. 10-21	per ton. 13-99	per ton. 12-04	per ton. 11-07	per ton. 14-91	per ton. 14-06	per ton. 11-90	per ton. 10-26	per ton. 16-50	per ton. 12-00	per ton. 12-25	per ton. 12-13
Fodder corn....	3-93	5-53	4-67	4-73	4-84	4-56	4-72	4-76	4-80	5-00	5-73	4-73	4-76	4-74
Sugar beets....	5-50	6-00	5-86	6-73	5-00	6-20	6-00	5-50	6-20	6-75	10-23	5-81	6-10	5-94
Alfalfa.....	—	—	9-65	11-08	11-75	12-03	15-01	13-41	9-75	10-08	15-78	11-09	12-00	11-66
Manitoba.														
Fall wheat.....	per bush. -83	per bush. -83	per bush. -83	per bush. -67	per bush. -67	per bush. -69	per bush. -89	per bush. -90	per bush. -90	per bush. -90	per bush. -90	per bush. -69	per bush. -97	per bush. -83
Spring wheat....	-83	-87	-80	-67	-67	-71	-1-01	-90	-1-23	-2-05	-2-06	-70	-1-12	-95
All wheat.....	—	—	-80	-67	-67	-71	-1-01	-90	-1-23	-2-05	-2-06	-76	-1-12	-93
Oats.....	-32	-31	-31	-32	-28	-28	-48	-35	-49	-67	-71	-31	-44	-37
Barley.....	-39	-38	-39	-48	-37	-34	-55	-51	-80	-1-07	-89	-40	-66	-53
Rye.....	-60	-60	-71	-70	-58	-58	-90	-80	-80	-1-06	-1-62	-63	-1-21	-1-09
Mixed grains....	-35	—	-44	-44	-45	-29	-48	-48	-45	-1-25	-1-41	-63	-61	-55
Flax.....	-97	1-32	2-09	1-76	1-04	1-03	1-10	1-61	2-13	2-85	3-15	1-38	1-45	1-40
Potatoes.....	-38	-32	-54	-42	-35	-36	-72	-62	-61	-76	-56	-39	-59	-48
Turnips, etc....	-27	-23	-44	-38	-38	-41	-54	-44	-49	-63	-44	-33	-49	-33

Average Prices received by Farmers for Field Crops, 1908-1918.—Concluded.

	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	5 yr. Average 1809-12.	5 yr. Average 1913-17.	10 yr. Average 1908-17.
	per bush.	per bush.	per bush.	per bush.	per bush.	per bush.	per bush.	per bush.	per bush.	per bush.	per bush.	per bush.	per bush.	per bush.
British Columbia.														
Fall wheat.....	—	—	.91	.97	1.03	1.01	1.22	.91	1.53	1.92	2.15	.98	1.25	1.15
Spring wheat.....	—	—	1.23	1.01	.93	.99	1.23	.96	1.54	2.00	2.08	1.02	1.47	1.36
All wheat.....	—	—	1.08	.99	.98	1.00	1.23	.94	1.54	1.99	2.09	1.00	1.39	1.28
Oats.....	—	—	.59	.57	.51	.58	.62	.49	.64	.90	1.00	.55	.64	.61
Barley.....	—	—	.83	.70	.64	.68	.92	.64	.83	1.28	1.47	.70	.91	.84
Peas.....	—	—	.99	1.40	1.38	1.50	1.45	1.24	1.67	2.46	3.00	1.26	1.63	1.48
Mixed grains.....	—	—	.84	.70	.65	.35	1.03	.50	1.25	.70	1.10	.69	.77	.75
Potatoes.....	—	—	.74	.66	.49	.66	.78	.45	.70	.69	.97	.60	.64	.62
Turnips, etc.....	—	—	.29	.60	.53	.60	.53	.39	.50	.64	.60	.50	.53	.52
Hay and clover....	per ton.	per ton.	per ton.	per ton.	per ton.	per ton.	per ton.	per ton.	per ton.	per ton.	per ton.	per ton.	per ton.	per ton.
Fodder corn.....	—	—	18.34	18.00	17.45	17.00	15.54	14.57	17.75	17.60	33.25	17.89	16.45	16.91
Alfalfa.....	—	—	6.46	7.50	9.00	12.00	6.00	4.00	7.00	15.00	10.00	7.75	10.87	10.18
	—	—	13.58	14.00	17.00	14.66	13.60	14.84	15.00	22.92	32.25	15.24	15.75	15.60

DOMINION EXPERIMENTAL FARMS AND STATIONS.

Central Farm, Ottawa.—The temperatures recorded during February have been unusually moderate, the only below-zero readings of the thermometer being during the nights of the 10th, 11th, 18th and 27th. The highest temperature is 36, the lowest -8.8 and the mean 17.6 , compared with a maximum of 41.4 , a minimum of -28.2 and a mean of 9.08 for the corresponding period a year ago. The precipitation, which is exactly one inch less than the average from 1912 to 1918, totals 1.59 inch, made up of 0.04 of an inch of rain and 15.5 inches of snow; while for the previous February it was 3.23 inches, consisting of 0.86 of an inch of rain and 23.75 inches of snow. The sunshine, which is considerably greater than usual, averages 4.94 hours a day, as compared with 3.53 hours a day for February, 1918.

Charlottetown, P.E.I.—R. D. L. Bligh, in charge, reports:—“Very moderate temperatures and an absence of bad storms, with many days of bright sunshine, have made February an ideal winter month. The month has been further characterized by an entire absence of zero weather. The mean temperature is 22.86 , as compared with an average of 17.03 for February for the four previous years. The aggregate sunshine, 99.1 hours, is the least recorded during this period since 1915, when the total was 94.6 hours. Snow has fallen on thirteen days, the heaviest being on the 16th and 27th, when 6 and 4 inches, respectively, fell. The only rain has been 0.15 of an inch on the 24th. Good sleighing continued throughout the month. The mild weather has been detrimental to the farmers who depend upon hauling in their produce, such as hay and grain, upon the rivers, as the ice was unsafe in many places, which necessitated a much longer haul on the roads. The hay and grain markets have been much easier. Hay seems to be fairly plentiful and has been selling at prices ranging from $\$14$ to $\$18$ per ton. Grain also is plentiful and has been quoted at prices ranging between 60 and 65 cents per bushel. The demand for all classes of breeding stock is good. Twenty-eight steers that are being fattened at this Station have made a total gain, from November 14th to February 14th, of 5,665 lb., or an average gain per steer of $202\frac{1}{4}$ lb., this being an average daily gain per steer of 2.2 lb.”

Kentville, N.S.—W. S. Blair, Superintendent, reports:—“February has been mild throughout, the mean temperature being 27.31 as compared with an average mean of 18.88 for the five previous years. The temperature went below 17 degrees on six days only, the lowest being 9. There has been snow on five days, which amounted to only 9.5 inches, not enough in any case to make sleighing until the 26th and 27th, when the six inches which fell on these two days resulted in fair sledding. The rainfall has been light, the heaviest being 0.7 of an inch on the 24th, the total for the month being 0.99 of an inch. The sunshine has been about normal, amount-

ing to 95 hours, as compared with 95.54 hours as the average for this month during the previous five years. Except that there has been practically no snow for sledding, the month has been a favourable one throughout."

Nappan, N.S.—W. W. Baird, Superintendent, reports:—"The weather during February has been exceptionally fine for the most part, bright days with frosty nights being experienced throughout the greater part of the month. On the night of the 26th, the heaviest snow-storm of the season was recorded, seven inches of snow falling altogether. At the Experimental Farm, all the time possible has been spent in chopping and yarding logs, and good progress has been made, the weather being quite favourable. The season's supply of ice has been cut and stored. In the poultry department, an incubator has been set with 100 eggs, and preparations are being made for hatching a large number of eggs. All live stock at this Farm is in good condition and doing nicely."

Fredericton, N.B.—W. W. Hubbard, Superintendent, reports:—"While February has been more wintry than January, yet in comparison with one year ago it has been incomparably more pleasant. The mean temperature is over ten degrees higher, there has been an absence of storm and wind, and over one-third more sunshine. Consequently, roads have been in good shape and all conditions most favourable for winter work both on the farm and in the woods. Live stock is requiring less food than the average, and the saving of fuel is very considerable. The ground has an even covering of snow and has but very little frost in it. With the exception of some damage done to trees through ice storms, the winter thus far could not have been more favourable for orchards."

Ste. Anne de la Pocatière, Que.—Jos. Begin, Superintendent, reports:—"February has been rather mild and dry when compared with the same period of previous years. The highest temperature recorded is 35.2, the lowest -4.3 and the mean 17.7, while a year ago the figures were 45.8, -33.6 and 7.4 respectively. The precipitation totals 2.20 inches, made up entirely of snow, which fell in eight different days, as against 3.40 inches, which fell in fourteen different days, for this period in 1918. The sunshine recorded averages 4.8 hours a day, compared with 3.2 hours a day a year ago. The weather during the month has been characterized by the absence of heavy snow-storms and the relatively large amount of bright sunshine. There is an increasing demand for hay and a scarcity of mill feeds; the latter, however, are now more easily got than last year at the same date. Live stock is generally healthy, and less fodder has been consumed than in recent winters. The eight winter fairs held in this section demonstrated the rather poor quality of seed grain exhibited, due to the fact that the season of 1918 was exceedingly unfavourable for harvesting grain crops. All counties in this district will import more or less seed grain through the Seed Branch representative at Quebec, as was the case in 1918."

Cap Rouge, Que.—G. A. Langelier, Superintendent, reports:—"February has been warmer, drier and brighter than the average for the corresponding month during the last seven years, the figures being, respectively, 16.88 and 6.08 degrees for mean temperature, 2.25 and 2.98 inches for precipitation, and 107.5 and 64.3 hours for sunshine. Work at the Station has consisted mainly in caring for live stock and poultry, looking after roads and fences and repairs to implements and buildings, cleaning seeds and preparing some for the Quebec exhibition, and hauling manure, feed, bedding and water. The prices of certain articles, such as peas and beans, have gone down so much lately that farmers are likely to be reluctant to grow them, in the future, even if prices should rise again."

Lennoxville, Que.—J. A. McClary, Superintendent, reports:—"February has been very mild, the mean temperature being 15.66, which is much higher than in any recent year. The maximum temperature recorded is 44 and the minimum -20, compared with 40 and -36, respectively, a year ago. The precipitation amounts to 1.23 inch as against 2.43 inches a year ago, and the bright sunshine aggregates 101.7 hours, compared with 75.6 hours in 1918, 105.5 hours in 1917 and 83 hours in 1916. There has not been the usual amount of snow this winter; but there has been sufficient for farmers to get well advanced with their winter team work, such as that in connection with their wood for fuel, lumber, etc. Hay is quite scarce in this section, and there is quite a quantity being brought in from elsewhere and being sold at a high price. The exceptional demand is due, no doubt, to the shortage of fodder resulting from the poor crop of corn in this district last summer. Everything points to an early spring in this section, and farmers are making preparations for an early start in their maple sugar production."

Brandon, Man.—W. C. McKillican Superintendent, reports:—"February has been a very pleasant month. Mild temperatures have prevailed almost throughout, with a few days of severe weather at the close. The snowfall has been light and there has been more sunshine than usual. The roads have been rather bare for sleighing, at times, but at the end of the month conditions are much better in this respect, due to snow which has fallen during the last week. The mild winter has been of great assistance in conserving feed for stock, which was very scarce. Farmers are getting seed ready for spring sowing. At the Experimental Farm, hay, which was cut on government land in northern Manitoba, has been hauled to the railway, shipped and hauled here. All classes of live stock are in good condition."

Indian Head, Sask.—C. B. Nourse, Assistant to the Superintendent, reports:—"February came in with cold weather and continued so to the end of the month. Snow has been registered on five days of the month, with a total fall of 13 inches. Very little wind has been experienced, and consequently the snow has drifted very little."

Rosthern, Sask.—Wm. A. Munro, Superintendent reports:—"During the last week of February the weather has been as cold as usual for that month, but until then it had been very mild. With the temperature of December averaging 27 degrees higher than the corresponding month of the previous year, and the temperature of January 18.6 degrees higher than January of last year and with the first three weeks of February unusually mild, it will be easily seen that the winter has been very favourable for the wintering of stock under ordinary conditions. The horses have been able to run out through the fields almost every day, and cattle in the outside feeding experiments seem to suffer no discomfort whatever. Reports come in from various places throughout the district that brood mares are aborting. The most feasible explanation for this is that these mares are closely stabled with poor ventilation, as is usual on many farms in very cold weather. Along with the detrimental effects of poor ventilation in ordinary winters, there is added that of undue heat, which re-acts on the constitution of the mares."

Scott, Sask.—M. J. Tinline, Acting Superintendent, reports:—"Except for the first few days, the weather during February was unusually mild up to the 23rd, since which date winds have been more prevalent and the thermometer dropping much lower, -45.5 being reached on the 26th. Very little snow has fallen, and the average, taken on the fields at the end of the month, is only approximately from eight to 10 inches. Owing to the snow being firmly packed, live stock, which thrived well during the first half of the winter running on the grass and stubble, is now rapidly failing in condition."

Lacombe, Alberta.—B. C. Milne, Assistant to the Superintendent, reports:—"The weather during February has been fairly extreme both as to high and low temperatures. With the exception of one day, when the thermometer registered -32, no cold weather was experienced until the 23rd of the month. Although the last week has been frosty, central Alberta has been free from storms, and live stock has come through in splendid condition, although more roughage than usual has been required. Only 3.5 inches of snow have fallen, and rain since following some of this, sleighing has not yet become good. The prices for pork have improved considerably during the latter part of the month. All classes of stock at this Station are in excellent condition, particularly the horses, cattle and sheep that are being wintered outside."

Lethbridge, Alberta.—W. H. Fairfield, Superintendent, reports:—"The weather during February has not been so mild as it was in January. From the 17th of February on to the end of the month, snow has fallen nearly every day, and, for practically the first time during the winter, the ground has remained covered with snow. The snowfall aggregates 9.5 inches. The exceptionally open mild weather that has prevailed this winter in southern Alberta up to the present time, has relieved the feed situation for live stock. Hay seems to be relatively plentiful, and range stock generally appear in good order considering the season of the year. Even should

March prove stormy there is nothing now to be apprehensive about as regards the live stock situation in this part of Alberta."

Invermere, B.C.—G. E. Parham, Superintendent, reports:—"Meteorological conditions for February have been practically on a par with the average for the preceding four years. Zero readings were recorded on three days during the first week and on three days during the last week, but the rest of the month has been mild and very little snow was left on the lower levels of the Valley prior to the 19th, when a fresh fall of three inches took place. Wheel traffic was reverted to on the 17th, but sleighing was resumed on the 22nd. In the poultry department, the egg-laying records for the month show a marked improvement over last year; and eggs are now being collected in anticipation of starting the incubators early in March."

Summerland, B.C.—R. H. Helmer, Superintendent, reports:—"The weather during February has been very changeable, with snow and rain on nine days. This condition has made it hard for cattle wintering in the open. The temperatures recorded have ranged from 43 to 3 degrees. It has been calm and cloudy most of the time. Many cattle and horses have wintered out and the price of hay has dropped in consequence. A cold wave came on the 23rd, with a heavy snowfall. The South Okanagan Seed District was organized at Penticton. There was a good attendance, but, owing to a heavy snow-storm, many were absent. Growers are pruning their trees and preparing hot-houses for plants. It has been a trying year on pitted roots, as temperatures have varied so much, and the snow has melted as soon as it has come."

Agassiz, B.C.—W. H. Hicks, in charge, reports:—"The weather during February has been rather changeable. The opening week was very fine, with plenty of sunshine; the second week was mild, but very wet. A couple of inches of snow fell on the 12th and 13th, which very soon disappeared. The third week was very fine and bright, with only 0.8 of an inch of rain. On the 22nd, snow began to fall and continued until the close of the month, totalling 34 inches, a record for February for a number of years. The temperature dropped to 16 on the 24th, and by the 28th the wind was piling the snow in huge drifts, making this the most disagreeable day of the winter to date. Some ploughing and other work have been done on the land, but the snow put a stop to this work for some time to come."

Sidney, Vancouver Island, B.C.—Lionel Stevenson, Superintendent, reports:—"The weather conditions during February have been very favourable as regards agriculture. No heaving frosts have been experienced, and all autumn-planted crops have come through the month one hundred per cent strong. The live stock of the district is in good condition and many animals have been running out all winter. Feeds are lower in price than during January. Considerable hay and grain have been imported into the district. The following plants appeared in bloom at the end of the month: magnolia, rhododendron, jasmine and heaths."

Meteorological Record for February, 1919.

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of February are given in the following table:—

Experimental Farm or Station at—	Degrees of Temperature F.			Precipitation in inches.	Hours of Sunshine.	
	High-est.	Low-est.	Mean.		Possible.	Actual.
Ottawa, Ont.....	36.0	-8.8	17.60	1.59	292	138.4
Charlottetown, P.E.I.....	35.0	5.0	22.86	2.48	289	99.1
Kentville, N.S.....	40.0	9.0	27.31	1.94	292	95.0
Nappan, N.S.....	39.0	2.0	23.72	1.98	292	101.7
Fredericton, N.B.....	39.0	-17.0	20.65	1.61	290	124.8
Ste. Anne de la Pocatière, Que.....	35.2	-4.3	17.70	2.20	288	134.8
Cap Rouge, Que.....	34.0	-7.0	16.88	2.25	287	107.5
Lennoxville, Que.....	44.0	-20.0	15.66	1.23	291	101.7
Brandon, Man.....	37.0	-38.3	4.30	0.60	283	117.6
Indian Head, Sask.....	38.0	-48.0	-1.68	1.30	282	106.6
Rosthern, Sask.....	27.9	44.8	-2.27	0.60	275	131.4
Scott, Sask.....	37.0	-45.5	-2.40	0.30	276	89.7
Lacombe, Alberta.....	51.8	-40.6	12.69	0.82	278	100.7
Lethbridge, Alberta.....	60.0	-26.0	14.30	0.95	284	94.7
Invermere, B.C.....	42.0	-19.0	17.00	0.83	282	79.2
Summerland, B.C.....	43.0	3.0	28.30	1.16	283	73.4
Agassiz, B.C.....	49.0	16.0	37.30	6.98	285	57.1
Sidney, Vancouver I., B.C.....	51.0	26.0	33.40	4.02	286	60.0

Ottawa, March 13, 1919.

J. H. GRIDDALE,
Director Experimental Farms.

PROVINCIAL CROP REPORTS.

Ontario.—The Ontario Department of Agriculture reports (March 31) that the young fall wheat is looking well although it has been exposed more than usual during the winter. The next two or three weeks, however, are regarded as the most trying times for the young plants, and at the time of reporting, strong, raw winds were prevailing. Considerable spring ploughing has been done in some of the southwestern counties. In Lambton and Kent some spring wheat and oats have been sown already. Wellington and Lincoln predict a large acreage of spring wheat, but Halton states that mixed grains will be preferred in that county. Clover does not look so promising as fall wheat, as it has suffered more from heaving. Where top-dressed in the fall, red clover is said to be in excellent condition. Little or no winter injury to orchards has been reported. Fruit buds are very far advanced for the season. Live stock are more or less in demand, excepting horses. But while the horse market generally is dull, several carloads were shipped from the northern part of Huron during the month. At a recent fair in Wellington about fifty animals were sold to dealers for outside points, and about

as many more to local farmers. Beef cattle are being marketed more freely, but there is a scarcity of well finished animals offering. Good grade cows are in great request. At a recent sale in Lambton grade Shorthorns averaged \$155; two brought \$181 and one \$191. Waterloo reports the average price paid for fourteen grade Holstein cows was \$165.75. In Dundas, dairy cows have changed hands at from \$100 to \$140. Hogs are being turned off in fair numbers, and more are likely to be fed than were counted on recently. Young pigs are again in brisk demand, six weeks' old animals being snatched up at from \$11 to \$13 each. Hay is scarce, and is selling at from \$20 to \$25 a ton. Other fodders, more especially roughage, are more than sufficient for all calls. Beans are in good supply, and buyers are more active. Farmers' Clubs are active in buying and selling. Wellington reports that ten clubs in that county are shipping live stock co-operatively, and are buying seed grain for their members. Waterloo also states that its clubs are doing similar work. Maple sap has not been running so freely as in the average season.

Saskatchewan.—Telegraphic reports received April 15 indicate that while work on the land has commenced in many districts seeding will not be general until April 23. Sufficient quantities of seed grain and feed are reported. Labour is scarce, and \$65 to \$75 per month is the ruling wage for experienced men.

CROP REPORTS FROM OTHER COUNTRIES.

England and Wales.—The Board of Agriculture reports (March 1) that the wet weather, with occasional severe frost and snow, has greatly delayed cultivation and, very little spring sowing has been done. Only during the last days of the month has general progress been possible. Autumn-sown crops have not suffered to any serious extent, and wheat is generally described as healthy and promising, though there has been some deterioration and loss of plant on low-lying, wet land. Probably from one-third to one-half of the crop may need a spring top-dressing. Oats and beans seem to be generally vigorous and promising. Seeds, with some exceptions, look well, and the area is much the same as last year. Ewes are healthy, and their condition, though somewhat lowered by the inclement weather, is on the whole fair. Lambing is still in its earlier stages, but so far the fall seems fairly satisfactory. In some few instances the trying conditions have resulted in losses both of ewes and lambs. Other live stock are healthy, but the shortage of foodstuffs and the severe weather have combined to keep them in moderate, or at best, only fair, condition. The supply of winter keep is getting low in many places, but on the whole seems likely to prove sufficient. The labour shortage is gradually becoming less acute as demobilization proceeds, but conditions vary greatly in different districts, some farmers having all the men they need for present requirements, and others being still short-handed. Skilled labour is greatly needed almost everywhere.

Ireland.—The Irish Department of Agriculture reports (March 24) that the estimated average yield per acre of the flax crop in Ireland in 1918 was 17.5 stones of 14 lb. as compared with 22.8 stones in 1917 and 25.4 stones in 1916. The average annual production during the ten years 1908-17 was 29 stones. The area in 1918 amounted to 143,355 acres, as against 107,705 acres in 1917 and 91,454 acres in 1916. The total produce of the crop for 1918 is estimated at 15,703 long tons as against 15,362 tons in 1917 and 14,492 tons in 1916.

New Zealand.—The Census and Statistics Office reports (February 14) that for the season of 1918-19 the estimated yield of wheat is approximately 6,265,000 bushels as against an actual yield of 6,807,536 bushels in 1917-18. The total yield of oats is expected to be about 5,140,000 bushels, as compared with 4,942,759 bushels in 1917-18.

India.—A supplementary memorandum of the Indian Department of Statistics, dated February 20, places the area sown to wheat for the season of 1918-19 at 23,403,000 acres instead of 23,472,000 acres, as reported last month. The decrease as compared with the finally revised area of 1917-18 is therefore 12,094,000 acres, or 34 p.c.

United States.—The Crop-Reporting Board of the U.S. Department of Agriculture estimated (March 7) that the amounts of grain in farmers' hands on March 1, 1919, were approximately in thousands of bushels as follows:

Grain in Farmers' Hands in United States on March 1, 1916-19.

Grain.	In farmers' hands March 1, 1916.	Per cent of 1915 crop.	In farmers' hands March 1, 1917.	Per cent of 1916 crop.	In farmers' hands March 1, 1918.	Per cent of 1917 crop.	In farmers' hands March 1, 1919.	Per cent of 1918 crop.
	000 bush.	p.c.	000 bush.	p.c.	000 bush.	p.c.	000 bush.	p.c.
Wheat.....	244,448	23.8	100,650	15.8	107,745	16.9	129,258	14.1
Corn.....	1,116,559	37.3	782,303	30.5	1,253,290	40.9	884,476	34.2
Oats.....	598,148	38.6	394,211	31.5	599,208	37.6	588,421	38.2
Barley.....	58,301	25.5	33,244	18.2	44,419	21.0	81,899	31.9

The following statement compares the prices of these crops on March 1, 1919, as compared with March 1, 1916, 1917 and 1918.

Crop.	March 1, 1916.	March 1, 1917.	March 1, 1918.	March 1, 1919.
	\$ c.	\$ c.	\$ c.	\$ c.
Wheat.....	1 03	1 64	2 03	2 08
Corn.....	0 68	1 01	1 54	1 37
Oats.....	0 43	0 57	0 86	0 63
Barley.....	0 60	0 97	1 61	0 85

The proportion of the 1918 corn crop which is merchantable is about 82.5 p.c. (equivalent to 2,129,764,000 bushels) against 60 p.c. (1,837,728,000 bushels) of the 1917 crop and 83.9 p.c. (2,154,487,000 bushels) of the 1916 crop.

AGRICULTURAL IMPLEMENT INDUSTRY OF CANADA, 1917.

The Dominion Bureau of Statistics has completed a preliminary census of the Agricultural Implement Industry in Canada for the calendar year 1917. The census covered altogether 90 establishments. These were located by provinces as follows: Alberta, 1, Manitoba 7, Nova Scotia 1, Ontario, 56, Prince Edward Island 1, Quebec 21, and Saskatchewan 3.

CAPITAL INVESTED.—The total capital invested amounted to \$70,493,801, divided as follows: Land, buildings and fixtures, \$13,381,463; machinery and tools, \$6,140,082; materials on hand, stocks in process, finished products, fuel, etc., \$23,127,626; cash, trading and operating accounts and bills receivable, \$27,844,630. The total capital invested represents an increase over 1915 of \$10,964,710, or of 18.4 per cent.

EMPLOYEES' SALARIES AND WAGES.—The total salaries paid in 1917 amounted to \$1,329,736, an increase over 1915 of \$273,938, or of 25.9 per cent. The total wage payments rose in 1917 to \$8,027,036 from \$3,125,066 in 1915, or by 156.8 per cent. The average amount paid to wage-earners in 1917 was \$838. The total number on salaries in 1917 was 10,131, having risen from 6,737 in 1915. The average number of wage-earners employed monthly in 1917 was 9,563, the least number was 9,003 in September, the greatest number was 10,027 in December. The total number of different individual wage-earners on the pay-roll in 1917 was 24,895. From a total summary of 10,051 wage rates, it was found that 1,118 were paid from \$12 to \$15 a week, 4,271 from \$15 to \$20 a week, 2,033 from \$20 to \$25 a week, and 1,163 at a rate over \$25. The balance were paid at a rate below \$12 a week.

MATERIALS AND PRODUCTS.—The total cost of materials used in 1917 amounted to \$15,599,691, being an increase over 1915 of \$9,616,451, or of 160.7 p.c., and the total value of products rose from \$13,372,506 to \$32,364,340, or by 142 p.c. The net value of products, or the value added by manufacture was \$16,764,649 in 1917, in 1915 it amounted to \$7,389,270. The net value is found by subtracting the total cost of materials used from the total value of products.

THE WEATHER DURING FEBRUARY.

The Dominion Meteorological Office reports that the mean temperature of the month was decidedly above average from eastern Manitoba, over Ontario and Quebec to the Maritime Provinces, with the largest positive departures, nearly 10°, near lake Superior.

In Saskatchewan it was nearly average throughout the province, while in Alberta it was above average in the south and below in the north. In British Columbia it was very generally below, with the largest negative departures in the north. The precipitation was very generally less than average in all the provinces. In southern Ontario and southern Nova Scotia it was chiefly rain, while in the western provinces, and in the northern districts of the older provinces, it was almost wholly snow. In the western provinces the snow-covering is nearly average, with the greatest depth, about twelve inches, in northern Manitoba and Saskatchewan. In Ontario, the peninsula remained bare of snow practically the whole month, but northward and eastward it increased gradually to about two feet in Algoma and Nipissing, and about twenty inches in the Ottawa valley. Eastward over Quebec the depth increased from about two feet to nearly sixty inches in the Gaspé Peninsula, whence southward over the Maritime Provinces it diminished to a light covering near the Bay of Fundy and in southern Nova Scotia.

WEATHER OF THE YEAR 1918.

Weather of the Year 1918 at Canadian Stations, compared with Normal Annual Averages for the period 1888 to 1907.

Stations.	Degrees of Temperature F.						Hours of sunshine.	
	mean winter	mean summer	lowest in year	highest in year	mean annual	normal	1918	normal annual
British Columbia—								
Victoria.....	42.2	58.8	23.2	82.8	50.0	50.3	2,307	1,822
Vancouver.....	39.9	62.0	17.4	83.4	49.9	49.1	2,022	1,815
Kamloops.....	31.2	66.2	-14.5	102.0	47.8	47.4	2,171	1,868
Alberta—								
Calgary.....	23.1	61.8	-28.0	94.0	41.5	37.4	—	—
Edmonton.....	18.5	59.4	-43.0	90.0	37.9	36.7	2,287	2,081
Saskatchewan—								
Battleford.....	13.5	63.0	-46.0	98.0	37.0	34.4	—	2,101
Prince Albert.....	12.2	60.9	-46.0	92.0	35.3	32.1	—	—
Qu'Appelle.....	15.1	62.0	-38.0	99.0	37.0	34.5	2,338	—
Manitoba—								
Minnedosa.....	12.1	61.2	-43.2	97.2	35.3	34.1	—	—
Winnipeg.....	15.0	63.3	-36.9	94.1	37.0	34.9	1,998	2,178
Ontario—								
Port Arthur.....	18.0	59.6	-30.0	87.0	36.6	35.7	—	—
White River.....	10.5	55.5	-52.0	88.0	31.7	32.3	—	—
Parry Sound.....	21.6	65.3	-37.0	97.0	41.5	41.3	—	—
Southampton.....	25.1	62.9	-27.8	91.1	42.5	43.8	—	—
Toronto.....	23.2	67.2	-20.2	102.2	46.0	45.5	2,090	2,048
Kingston.....	24.2	65.4	-26.7	90.1	43.3	43.7	2,002	1,989
Stonecliffe.....	16.9	63.9	-36.0	96.0	39.1	38.5	—	—
Ottawa.....	19.7	66.4	-26.5	94.0	41.8	43.0	2,213	1,874
Quebec—								
Montreal.....	20.4	66.3	-24.5	91.6	42.0	42.3	1,847	1,805
Quebec.....	17.2	62.6	-26.8	88.4	38.4	38.7	1,758	1,762
Sherbrooke.....	18.8	62.7	-35.0	94.0	39.7	—	1,614	1,843
Father Point.....	15.7	54.4	-24.4	78.1	34.1	35.1	—	—

Weather of the Year 1918 at Canadian Stations, compared with Normal Annual Averages for the period 1888 to 1907—concluded.

Stations.	Degrees of Temperature F.						Hours of sunshine.	
	mean winter	mean summer	lowest in year	highest in year	mean annual	normal	1918	normal annual
New Brunswick—								
Chatham.....	18.9	62.0	-26.0	93.5	39.4	40.3	—	—
Fredericton.....	19.0	61.3	-28.0	92.0	38.6	40.5	1,898	—
St John.....	23.5	58.2	-14.0	82.5	40.2	41.6	1,816	1,978
Nova Scotia—								
Yarmouth.....	29.1	58.3	-3.0	79.2	42.9	43.8	—	—
Halifax.....	26.8	60.5	-12.6	86.7	42.9	44.3	—	—
Sydney.....	25.4	59.8	-12.5	88.0	41.7	42.4	—	—
Prince Edward Island—								
Charlottetown.....	22.4	61.6	-16.0	84.0	40.8	42.0	1,633	1,896

Precipitation in inches.

Stations.	1918.			Normal		
	rain.	snow.	total.	rain.	snow.	total.
British Columbia—						
Victoria.....	28.83	1.8	29.01	31.41	11.6	32.57
Vancouver.....	58.51	41.8	62.69	57.88	23.2	60.20
Kamloops.....	8.13	28.9	11.02	8.0	26.2	10.62
Alberta—						
Calgary.....	6.36	27.6	9.12	11.70	46.0	16.30
Edmonton.....	11.68	61.8	17.86	14.18	40.2	18.20
Saskatchewan—						
Battleford.....	5.51	42.5	9.76	11.05	27.4	13.79
Prince Albert.....	9.58	38.6	13.44	11.62	49.8	16.60
Qu'Appelle.....	10.87	46.6	15.53	13.44	54.0	18.84
Manitoba—						
Minnedosa.....	10.73	31.4	13.87	12.77	45.7	17.36
Winnipeg.....	14.87	45.3	19.40	15.62	51.9	20.81
Ontario—						
Port Arthur.....	17.85	23.9	20.24	19.01	44.5	23.46
White River.....	21.98	63.8	28.36	17.36	93.5	26.71
Parry Sound.....	25.48	106.8	36.16	29.38	115.6	40.94
Southampton.....	24.68	105.9	35.27	21.64	116.0	33.24
Toronto.....	27.99	64.2	34.41	25.28	61.0	31.38
Kingston.....	28.29	47.6	33.05	24.01	74.8	31.49
Stonecliffe.....	21.28	63.4	27.62	21.60	82.6	29.95
Ottawa.....	29.58	112.3	40.81	24.70	87.0	33.40
Quebec—						
Montreal.....	35.41	118.3	47.24	29.37	122.7	41.64
Quebec.....	42.40	113.9	53.79	27.17	132.9	40.46
Sherbrooke.....	29.55	85.3	38.08	27.19	116.7	38.86
Father Point.....	23.83	62.2	30.05	23.21	109.6	34.07

Precipitation in inches—concluded.

Stations.	1918.			Normal		
	rain.	snow.	total.	rain.	snow.	total.
New Brunswick—						
Chatham.....	36.05	110.0	47.05	27.65	119.9	39.64
Fredericton.....	36.54	103.2	46.86	33.73	104.6	44.19
St. John.....	38.91	106.6	49.57	36.68	84.3	45.11
Nova Scotia						
Yarmouth.....	40.08	90.2	49.10	42.46	84.2	50.88
Halifax.....	40.98	123.4	53.32	49.43	76.7	57.10
Sydney.....	33.49	136.0	47.09	41.10	92.8	50.38
Prince Edward Island—						
Charlottetown.....	29.56	108.4	40.40	29.97	101.8	40.15

PRICES OF AGRICULTURAL PRODUCE.

I. Weekly Range of Prices per bushel of Canadian Grain at Winnipeg and Fort William, 1919.

(Furnished by the Board of Grain Commissioners for Canada, Fort William, Ont.)

	March 1.		March 8.		March 15.		March 22.		March 29.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—										
No. 1 Nor.....	2 24½	—	2 24½	—	2 24½	—	2 24½	—	2 24½	—
No. 2 Nor.....	2 21½	—	2 21½	—	2 21½	—	2 21½	—	2 21½	—
No. 3 Nor.....	2 17½	—	2 17½	—	2 17½	—	2 17½	—	2 17½	—
No. 4.....	2 11½	—	2 11½	—	2 11½	—	2 11½	—	2 11½	—
No. 5.....	1 99½	—	1 99½	—	1 99½	—	1 99½	—	1 99½	—
No. 6.....	1 90½	—	1 90½	—	1 90½	—	1 90½	—	1 90½	—
Feed.....	1 60 —1 65		1 65 —1 67		1 68 —1 70		1 71 —1 73		1 70	—
Oats—										
No. 2 C.W.....	0 69½ —0 72½		0 69½ —0 74		0 68½ —0 74		0 69½ —0 74		0 66½ —0 74½	
No. 3 C.W.....	0 63½ —0 63½		0 63 —0 67		0 63½ —0 66½		0 66½ —0 70		0 63½ —0 70½	
No. 1 Feed Ex.....	0 64½ —0 65½		0 64 —0 68		0 65½ —0 68		0 66½ —0 70		0 63½ —0 70½	
No. 1 Feed.....	0 61½ —0 61½		0 61 —0 65		0 63½ —0 64½		0 64 —0 68		0 61½ —0 68½	
No. 2 Feed.....	0 57½ —0 58½		0 58 —0 61		0 60½ —0 61½		0 61½ —0 65		0 58½ —0 65½	
Barley—										
No. 3 C.W.....	0 85½ —0 86½		0 88½ —0 88		0 88½ —0 91½		0 92½ —1 06		0 92½ —1 05½	
No. 4 C.W.....	0 79½ —0 81		0 80½ —0 83		0 83½ —0 86		0 86½ —1 00		0 87½ —0 99½	
Rejected.....	0 73½ —0 74½		0 74 —0 77		0 77 —0 79½		0 79½ —0 96		0 82½ —0 95½	
Feed.....	0 72½ —0 73½		0 73 —0 76		0 76 —0 78½		0 78½ —0 95		0 81½ —0 94½	
Flax—										
No. 1 N.W.C.....	3 26½ —3 34½		3 34 —3 47½		3 37 —3 43½		3 47 —3 58		3 38 —3 61	
No. 2 C.W.....	3 17½ —3 25½		3 25½ —3 41½		3 33½ —3 36½		3 39 —3 50		3 30 —3 53	
No. 3 C.W.....	2 98½ —3 05½		3 05 —3 20½		3 13½ —3 19½		3 22 —3 35		3 15 —3 38	

II. Monthly Range of Prices per bushel of Grain at Selected Markets in the United States, 1918-19.

(From the Monthly Crop Report of the U.S. Dept. of Agriculture.)

Grade and Market.	November.		December.		January.		February.	
	\$ c	\$ c.	\$ c.	\$ c	\$ c.	\$ c	\$ c.	\$ c.
Wheat, Red Winter, No. 2—								
St. Louis.....	2 21	— 2 28	2 25½	— 2 48½	2 36	— 2 55	2 35	— 2 43
Chicago.....	2 23	— 2 26¾	2 26½	— 2 42	2 23	— 2 32	2 23	— 2 36
New York (f.o.b. afloat).....	2 38	— —	2 38	— —	2 38	— —	2 37	— 2 38
Corn, No. 2 mixed—								
St. Louis.....	1 42	— 1 47	1 45	— 1 56	1 56	— —	— —	— —
Corn No. 2—								
Chicago.....	1 30	— 1 45	1 35	— 1 55	1 22	— 1 02	1 22	— 1 38
Oats, No. 2—								
St. Louis.....	0 67	— 0 73	0 71	— 0 76	0 56	— 0 75	0 59	— 0 63½
Chicago.....	0 67½	— 0 77¾	0 68	— 0 74½	0 54	— 0 76½	0 55¾	— 0 64
Rye No. 2—								
Chicago.....	1 60½	— 1 75½	1 54	— 1 64	1 57	— 1 65	1 45	— 1 47

III. Range of Prices of Imported Grain and Flour at British Markets, 1919.

Mark Lane.	Feb. 3-24.	Liverpool.	Feb. 4-25.
Wheat—	\$ c.	Wheat—	\$ c.
Canadian No. 1.....	2 49½	Nor. Man. No. 1.....	2 52½
American—		Nor. Man. No. 2.....	2 52½
Spring ¹	2 49½	Nor. Man. No. 4.....	2 52½
Best winter.....	2 51	Red winter No. 1.....	2 52½
Hard winter.....	2 49½	Spl. red winter, new.....	2 52½
Red winter.....	2 48	Australian.....	2 52½
Californian ¹	2 49½	Flour (per 280 lb.).....	
Australian.....	2 53½	Manitoba.....	11 25
Indian.....	2 53½	Kansas.....	11 25
Argentine.....	2 49½		
Oats—			
Canadian.....	1 62½—1 65½		
American.....	1 42½—1 44½		
Flour—			
Canadian Spring.....	11 25		
American Spring.....	11 25		
American Winter.....	11 25		
Australian.....	11 25		

¹For February 3, \$2.48.

IV. Average Prices of British-Grown Grain, 1919.

(From the "London Gazette", as published pursuant to s. 8 of the Corn Returns Act, 1882.)

Week ended.	Wheat.		Barley.		Oats.	
	per quarter.	per bushel.	per quarter.	per bushel.	per quarter.	per bushel.
	s. d.	\$ c.	s. d.	\$ c.	s. d.	\$ c.
February 1.....	72 8	2·210	62 4	1·820	49 7	1·314
" 8.....	72 7	2·208	62 3	1·818	49 2	1·303
" 15.....	72 8	2·210	62 5	1·822	49 0	1·298
" 22.....	72 8	2·210	62 6	1·825	49 4	1·307
Average.....	72 8	2·210	62 5	1·821	49 3	1·306

June.—Revised estimate of areas sown to spring wheat, oats, barley, rye, peas, mixed grains, hay and clover, alfalfa and pastures. Condition of these crops and of fall wheat. Areas of late-sown cereals and hoed crops, including buckwheat, flax, corn for husking, beans, potatoes, turnips, sugar beets, mangolds, carrots, etc., and corn for fodder. Dates of sowing and of appearance above ground of wheat. Dates of heading, flowering and milk-stage of wheat.

July.—Preliminary estimate of the yield per acre of fall wheat, hay and clover, and alfalfa. Condition of spring wheat, oats, barley, rye, peas, beans, buckwheat, mixed grains, flaxseed, corn for husking, potatoes, turnips, mangolds, carrots, etc., hay and clover, alfalfa, corn for fodder, sugar beets and pasture. Dates of heading, flowering, milk-stage and cutting of wheat.

August.—Estimate of the yield per acre of spring wheat, rye, oats, barley and flax. Estimate of areas sown to these cereals that from any cause will not produce a crop. Condition of spring wheat, oats, barley, rye, beans, buckwheat, mixed grains, flaxseed, corn for husking, potatoes, turnips, mangolds, carrots, etc., hay and clover, alfalfa, corn for fodder, sugar beets and pasture. Dates of heading, flowering, milk-stage and cutting of wheat. Stocks of wheat, oats, and barley in hand on August 31.

September.—Estimate of the yield per acre of fall wheat, spring wheat, oats, barley, rye, peas, beans, buckwheat, mixed grains, flaxseed and corn for husking. Quality of these crops when harvested. Condition of potatoes, turnips, mangolds, carrots, etc., sugar beets, corn for fodder and alfalfa. Date of cutting of wheat.

October.—Yield per acre, quality, and average price of potatoes, sugar beets, turnips, corn for husking, other roots (mangolds, carrots, etc.), hay and clover, fodder corn and alfalfa. Acreage sown to fall wheat. Condition of fall wheat. Percentage of fall ploughing completed. Acreage summer-fallowed in percentage of previous year.

December.—Final estimates of yields per acre based upon reports of threshing results. Average market prices and weight per measured bushel of cereals.

PUBLICATIONS

OF THE

Department of Trade and Commerce

ANNUAL REPORT OF THE DEPUTY MINISTER.

MAIL SUBSIDIES AND STEAMSHIP SUBVENTIONS (Annual).

BOARD OF GRAIN COMMISSIONERS FOR CANADA (Annual).

RULES AND REGULATIONS OF THE BOARD OF GRAIN COMMISSIONERS (Annual).

LIST OF LICENSED ELEVATORS, ETC.

GRAIN INSPECTION IN CANADA, (1914).

WEEKLY BULLETIN, containing Reports of Trade Commissioners and other Commercial Information.

PATENT OFFICE RECORD (WEEKLY).

RULES AND FORMS OF THE CANADIAN PATENT OFFICE.

CANADA AND THE BRITISH WEST INDIES (1915).

CANADA THE COUNTRY OF THE TWENTIETH CENTURY (1915) £75c., \$1.00.

HANDBOOK FOR EXPORT TO SOUTH AMERICA (1915).

TRADE WITH CHINA AND JAPAN (1914).

REVIEW OF COMMERCIAL INTELLIGENCE SERVICE (1916).

RUSSIAN TRADE (1916).

DIRECTORY OF RUSSIAN IMPORTERS (1915).

THE GERMAN WAR AND ITS RELATION TO CANADIAN TRADE (1914).

TOY MAKING IN CANADA (1916).

THE TIMBER IMPORT TRADE OF AUSTRALIA (1917).

FOOD INSPECTION BULLETINS.

TRIAL SHIPMENT OF WHEAT, from Vancouver via the Panama Canal to the United Kingdom.

GAS AND ELECTRICITY (Annual).

WEIGHTS AND MEASURES (Annual).

For List of Publications of the Dominion Bureau of Statistics, see page iv of cover.

PUBLICATIONS

OF THE

DOMINION BUREAU OF STATISTICS.

THE CANADA YEAR BOOK, 1918, with Map of Canada and Newfoundland, a Statistical Summary of the Progress of Canada, Frontispiece and numerous other illustrations. (Jubilee Volume). pp. 1-xvii, 1-686.

Contents: I The Story of Confederation, by Sir JOSEPH POPE, K.C.M.G., C.V.O. I.S.O., Under Secretary of State for External Affairs, Ottawa, with 2 illustrations; II Chronological History of Canada, 1497-1918; III Fifty years of Canadian Progress, 1867 to 1917, by ERNEST H. GODFREY, F.S.S., Editor, Dominion Bureau of Statistics, Ottawa; IV Physical Characteristics of Canada, including Geographical Features; Economic Geology in Canada, 1918, by WYATT MALCOLM, Department of Mines, Ottawa; V Area and Population; VI Education; VII Climate and Meteorology, including The Climate of Canada since Confederation, by Sir FREDERIC STUART, Director, Dominion Meteorological Service, Toronto; VIII Production; IX Trade and Commerce; X Transportation and Communications; XI Labour; XII Finance; XIII Administration; XIV Legislation in 1917 and 1918 and Principal Events of the Year 1918; XV Extracts from the Canada Gazette, 1917 and 1918.

THE CANADA YEAR BOOK. Second Series 1905-1917. [1910, 1913 and 1916-17, out of print.]

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. Nos. 1 to XIX.

REPORT OF THE FIFTH CENSUS OF CANADA, 1911.

Vol. I, 1912. Areas and Population by Provinces, Districts and Subdistricts with introduction. Tables I to XV, pp. i-viii, 1-623. [Out of print.]

Vol. II, 1913. Religions, Origins, Birthplace, Citizenship, Literacy and Infirmitities by Provinces, Districts and Subdistricts, with Introduction. Tables I-XLVI, pp. i-iv, 1-634.

Vol. III, 1913. Manufactures for 1910 as enumerated in June 1911, with Introduction. Table I-XX, pp. i-xvi, 1-432. [Out of print.]

Vol. IV, 1914. Agriculture, with Introduction. Tables 1-90; I-XXXV, pp. i-xcv, 1-428. Diagrams, 5 pp. [Out of print.]

Vol. V, 1915. Forest, Fishery, Fur and Mineral Production, with Introduction. Tables 1-51; I-XXVI, pp. i-l, 1-171.

Vol. VI, 1916. Occupations of the People, with Introduction. Tables 1-25; I-VI, i-xxxi, 1-469. [Out of print.]

REPORT OF THE CENSUS OF POPULATION AND AGRICULTURE OF THE PRAIRIE PROVINCES, 1916. January 12, 1918. Tables 1-54; I-XXVI, pp. i-lxiv; 1-356.

SPECIAL REPORT ON THE FOREIGN-BORN POPULATION. Abstracted from the Records of the Fifth Census of Canada, June 1911. 23 tables. 62 pp. 1915.

REPORT OF THE POSTAL CENSUS OF MANUFACTURES, 1916. pp. i-xi; 1-263, 1917.

REPORT ON THE PRODUCTION OF CREAMERIES AND CHEESE FACTORIES, 1915 and 1916, pp. 1-24, 1917. [Out of print.]

REPORT ON THE CENSUS OF INDUSTRY, 1917. Part I. (AGRICULTURAL STATISTICS); Part II (DAIRY FACTORIES), in the press; Part III. (FISHERY STATISTICS); Part IV, Section 4 (PULP AND PAPER). Other Parts in preparation.

EXTERNAL TRADE: ANNUAL REPORT OF THE TRADE OF CANADA; MONTHLY REPORT OF THE TRADE OF CANADA.

INTERNAL TRADE: ANNUAL REPORT ON THE GRAIN TRADE OF CANADA; ANNUAL REPORT ON THE COAL TRADE OF CANADA; MONTHLY PRODUCE BULLETINS, showing stocks in warehouse, in transit, etc.

CRIMINAL STATISTICS. Annual Report for Year ended September 30, 1917. pp. i-li, 1-270.

CENSUS AND STATISTICS MONTHLY, Vols. 1-10, 1908-1916; Vol. 10, Nos. 101-103, 1917. MONTHLY BULLETIN OF AGRICULTURAL STATISTICS, Vols. 10 and 12, Nos. 104-124, 1917-18; Vol. 12, No. 125, 1919.

REPORT OF CONFERENCE ON VITAL STATISTICS, June 19-20, 1918, pp. 1-48, 1918.

THE BEET SUGAR INDUSTRY, Bulletin IX, with 3 illustrations, pp. 1-75, 1909.

For list of Publications of the Department of Trade and Commerce, see page iii of cover.



VOL. 12

No. 128

CANADA

DOMINION BUREAU OF STATISTICS

Quarterly

MONTHLY BULLETIN

OF

AGRICULTURAL STATISTICS

April, 1919.

Published by Authority of the Right Hon. Sir George E. Foster,
G.C.M.G., M.P., Minister of Trade and Commerce.



OTTAWA

J. DE LABROQUERIE TACHÉ

Printer to the King's Most Excellent Majesty

1919

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MONTHLY BULLETIN OF AGRICULTURAL STATISTICS

VOL. 12

OTTAWA, APRIL, 1919.

No. 128

DOMINION STATISTICIAN: R. H. COATS, B.A., F.S.S. EDITOR: ERNEST H. GODFREY, F.S.S.
DOMINION BUREAU OF STATISTICS, OTTAWA, CANADA.

STOCKS ON HAND AND QUALITY OF CROPS OF 1918.

Report for the month ended March 31, 1919.

The following report gives the results of inquiries as to (a) the stocks of agricultural produce remaining in farmers' hands on March 31, 1919, and (b) the proportion of the crops of 1918 that proved to be of merchantable quality.

STOCKS IN FARMERS' HANDS ON MARCH 31, 1919.

The reports of crop correspondents show that of the total wheat production of 1918, 17 p.c., or 32,315,000 bushels, remained in farmers' hands on March 31, 1919. Last year the proportion was 14 p.c., representing nearly 32 million bushels, and in 1917 it was 21 p.c., representing nearly 55 million bushels. Of the other field crops the proportions and quantities estimated to be in farmers' hands on March 31, 1919, are as follows: oats 33 p.c., or 141,694,000 bushels; barley 26 p.c., or 20 million bushels; rye 21 p.c., or 1,784,000 bushels; buckwheat 23 p.c., or 2½ million bushels; corn for husking 12 p.c., or 3 million bushels; flaxseed 17 p.c., or 1 million bushels; potatoes 31 p.c., or 32,836,000 bushels; turnips, etc., 18 p.c., or 22,295,000 bushels; hay and clover 18 p.c., or 2,701,000 tons. The stock of potatoes, viz., 32,836,000 bushels, compares with 24,130,500 bushels last year, 16,770,000 bushels in 1917, 16,285,000 bushels in 1916 and 32,310,000 bushels in 1915.

MERCHANTABLE QUALITY OF CROPS OF 1918.

The return from crop correspondents show that of the total wheat crop of 1918, viz., 189,075,350 bushels, 93 p.c., or 175,370,000 bushels, were of merchantable quality. Last year the proportion was estimated at 95 p.c., and in 1917 it was 85 p.c. The proportions per cent of other crops of 1918 estimated to be of merchantable quality were as follows: Oats 90 p.c. (382,994,000 bushels out of 426,312,500 bushels); barley 92 p.c. (71,171,000 bushels out of 77,287,240 bushels); rye 92 p.c. (7,827,000 bushels out of 8,504,400 bushels); buckwheat 75 p.c. (8,566,000 bushels out of 11,375,500 bushels); corn for husking 67 p.c. (9,489,000 bushels out of 14,214,200 bushels); flaxseed 90 p.c. (5,440,000 bushels out of 6,055,200 bushels); potatoes 81 p.c. (84,359,000 bushels out of 104,364,200 bushels); turnips, etc. 86 p.c. (104,890,000 bushels out of 122,699,600 bushels); hay and clover 89 p.c. (13,141,000 tons out of 14,772,300 tons).

Dominion Bureau of Statistics,
Ottawa, April 25, 1919.

ERNEST H. GODFREY,
Editor.

I. Produce in Farmers' Hands on March 31, 1919, and Quantities of Merchantable Quality, 1918.

Field Crops.	Total production in 1918.	In farmers' hands, March 31, 1919.		Yield of 1918 harvest merchantable.	
	bush.	p.c.	bush.	p.c.	bush.
Canada—					
Wheat.....	189,075,350	17	32,315,000	93	175,370,000
Oats.....	426,312,500	33	141,694,000	90	382,994,000
Barley.....	77,287,240	26	20,026,000	92	71,171,000
Rye.....	8,504,400	21	1,784,000	92	7,827,000
Buckwheat.....	11,375,500	23	2,561,000	75	8,566,000
Corn for husking.....	14,214,200	21	3,019,000	67	9,489,000
Flaxseed.....	6,055,200	17	1,039,000	90	5,440,000
Potatoes.....	104,364,200	31	32,836,000	81	84,359,000
Turnips, etc.....	122,699,600	18	22,295,000	86	104,890,000
	tons.		tons.		tons.
Hay and clover.....	14,772,300	18	2,701,000	89	13,141,000
Prince Edward Island—					
	bush.		bush.		bush.
Wheat.....	606,000	40	242,000	91	551,000
Oats.....	5,839,000	40	2,336,000	92	5,372,000
Barley.....	162,000	32	52,000	95	154,000
Buckwheat.....	122,000	29	35,000	89	109,000
Potatoes.....	5,362,300	38	2,038,000	76	4,075,000
Turnips, etc.....	4,292,000	13	558,000	79	3,391,000
	tons.		tons.		tons.
Hay and clover.....	334,000	23	77,000	95	317,000
Nova Scotia—					
	bush.		bush.		bush.
Wheat.....	728,000	25	182,000	88	641,000
Oats.....	5,403,000	29	1,567,000	88	4,755,000
Barley.....	347,000	22	76,000	89	309,000
Rye.....	7,700	14	1,000	81	6,000
Buckwheat.....	445,000	17	76,000	77	343,000
Potatoes.....	9,776,000	25	2,444,000	77	7,528,000
Turnips, etc.....	9,320,700	13	1,212,000	78	7,270,000
	tons.		tons.		tons.
Hay and clover.....	878,000	17	149,000	90	790,000
New Brunswick—					
	bush.		bush.		bush.
Wheat.....	940,250	23	216,000	87	818,000
Oats.....	7,051,400	31	2,186,000	91	6,417,000
Barley.....	163,140	23	38,000	86	140,000
Rye.....	5,000	-	-	100	5,000
Buckwheat.....	1,499,500	27	405,000	82	1,230,000
Potatoes.....	9,077,600	26	2,360,000	78	7,081,000
Turnips, etc.....	6,477,500	13	842,000	82	5,312,000
	tons.		tons.		tons.
Hay and clover.....	1,111,000	16	178,000	87	967,000
Quebec—					
	bush.		bush.		bush.
Wheat.....	6,308,000	24	1,514,000	84	5,299,000
Oats.....	52,667,000	30	15,800,000	81	42,660,000
Barley.....	4,551,000	18	819,000	87	3,959,000
Rye.....	472,000	17	80,000	85	401,000
Buckwheat.....	4,711,000	19	895,000	70	3,298,000
Corn for husking.....	1,199,000	13	156,000	75	899,000
Flaxseed.....	83,000	21	17,000	85	71,000
Potatoes.....	88,936,000	31	12,070,000	81	31,538,000
Turnips, etc.....	28,228,000	10	2,823,000	86	24,276,000
	tons.		tons.		tons.
Hay and clover.....	6,799,900	19	1,292,000	89	6,052,000

I. Produce in Farmers' Hands on March 31, 1919, and Quantities of Merchantable Quality, 1918—concluded.

Field Crops.	Total production in 1918.	In farmers' hands, March 31, 1919.		Yield of 1918 harvest merchantable.	
	bush.	p.c.	bush.	p.c.	bush.
Ontario—					
Wheat.....	15,241,000	23	3,505,000	71	10,821,000
Oats.....	131,752,600	33	43,478,000	93	122,530,000
Barley.....	24,247,700	29	7,032,000	93	22,550,000
Rye.....	1,813,000	19	344,000	90	1,632,000
Buckwheat.....	4,598,000	25	1,150,000	78	3,586,000
Corn for husking.....	13,015,200	22	2,863,000	66	8,590,000
Flaxseed.....	196,200	26	51,000	82	161,000
Potatoes.....	19,376,000	36	6,975,000	80	15,501,000
Turnips, etc.....	64,896,000	16	10,383,000	86	55,811,000
	tons.		tons.		tons.
Hay and clover.....	4,596,900	18	827,000	88	4,045,000
Manitoba—					
Wheat.....	48,191,100	14	6,747,000	97	46,745,000
Oats.....	54,473,500	36	19,610,000	93	50,661,000
Barley.....	27,963,400	27	7,550,000	94	26,286,000
Rye.....	3,935,700	19	748,000	97	3,818,000
Flaxseed.....	1,091,000	19	207,000	91	993,000
Potatoes.....	8,325,000	38	3,164,000	89	7,409,000
Turnips, etc.....	2,494,800	15	374,000	91	2,270,000
	tons.		tons.		tons.
Hay and clover.....	74,000	20	15,000	90	67,000
Saskatchewan—					
Wheat.....	92,493,000	16	14,799,000	95	87,868,000
Oats.....	107,253,000	38	40,756,000	89	95,455,000
Barley.....	11,888,000	23	2,734,000	91	10,818,000
Rye.....	1,420,000	32	454,000	100	1,420,000
Flaxseed.....	4,205,000	18	577,000	91	3,827,000
Potatoes.....	6,950,900	32	2,224,000	83	5,769,000
Turnips, etc.....	2,203,300	12	264,000	98	2,159,000
	tons.		tons.		tons.
Hay and clover.....	362,400	26	94,000	95	344,000
Alberta—					
Wheat.....	23,752,000	21	4,988,000	92	21,852,000
Oats.....	60,323,000	26	15,682,000	89	53,687,000
Barley.....	7,756,000	22	1,706,000	87	6,748,000
Rye.....	826,000	19	157,000	63	520,000
Flaxseed.....	480,000	39	187,000	85	388,000
Potatoes.....	3,119,400	27	842,000	85	2,651,000
Turnips, etc.....	2,357,400	39	919,000	96	2,263,000
	tons.		tons.		tons.
Hay and clover.....	398,700	13	52,000	94	366,000
British Columbia—					
Wheat.....	816,000	15	122,000	95	775,000
Oats.....	1,550,000	18	279,000	94	1,457,000
Barley.....	209,000	9	19,000	99	207,000
Rye.....	25,000	—	—	100	25,000
Potatoes.....	3,423,000	21	719,000	82	2,807,000
Turnips, etc.....	2,429,900	7	170,000	88	2,138,000
	tons.		tons.		tons.
Hay and clover.....	217,400	8	17,000	89	193,000

II. Produce in Farmers' Hands on March 31, 1916-1919.

Field Crops.	Per cent of total yield on hand.				In farmers' hands on March 31.			
	1916	1917	1918	1919	1916	1917	1918	1919
	p.c.	p.c.	p.c.	p.c.	bush.	bush.	bush.	bush.
Canada—								
Wheat.....	23	21	14	17	92,548,000	54,938,000	31,684,700	32,315,000
Oats.....	45	39	31	33	208,129,000	162,089,000	123,910,400	141,694,000
Barley.....	35	26	20	26	18,995,500	10,997,000	10,944,600	20,026,000
Rye.....	31	28	13	21	749,700	820,500	491,800	1,784,000
Buckwheat.....	22	18	18	23	1,747,000	1,103,000	1,251,500	2,561,000
Corn for husking.....	24	13	12	21	3,453,000	814,000	937,000	3,019,000
Flaxseed.....	25	20	9	17	1,552,000	1,636,000	515,800	1,039,000
Potatoes.....	21	26	30	36	16,825,000	16,770,000	24,130,500	32,836,000
Turnips, etc.....	15	14	14	18	8,995,900	4,932,000	8,644,100	22,295,000
					tons.	tons.	tons.	tons.
Hay and clover....	23	32	26	18	2,431,200	4,719,000	3,536,300	2,701,000
P.E. Island—								
					bush.	bush.	bush.	bush.
Wheat.....	37	28	28	40	242,000	162,000	146,200	242,000
Oats.....	40	38	37	40	2,737,000	2,817,000	2,398,500	2,336,000
Barley.....	21	25	27	32	22,000	26,000	26,900	52,000
Buckwheat.....	25	21	24	29	19,000	14,000	17,400	35,000
Potatoes.....	24	29	40	38	857,000	1,852,000	2,450,000	2,038,000
Turnips, etc.....	14	15	14	13	507,000	572,000	573,200	558,000
					tons.	tons.	tons.	tons.
Hay and clover....	30	27	25	23	104,000	91,000	76,400	77,000
Nova Scotia—								
					bush.	bush.	bush.	bush.
Wheat.....	26	19	17	25	63,000	50,000	43,400	182,000
Oats.....	31	23	22	29	1,068,000	927,000	791,500	1,567,000
Barley.....	23	17	16	22	30,000	21,000	19,000	76,000
Rye.....	16	10	18	14	700	500	800	1,000
Buckwheat.....	18	14	13	17	40,000	34,000	29,800	76,000
Potatoes.....	26	24	33	25	1,230,000	1,664,000	2,367,000	2,444,000
Turnips, etc.....	17	13	15	13	607,000	473,000	479,000	1,212,000
					tons.	tons.	tons.	tons.
Hay and clover....	26	26	19	17	254,000	259,000	169,900	149,000
New Brunswick—								
					bush.	bush.	bush.	bush.
Wheat.....	24	21	22	23	65,000	51,000	42,400	216,000
Oats.....	32	30	27	31	1,772,000	1,812,000	1,154,300	2,186,000
Barley.....	22	19	20	23	10,000	9,000	7,900	38,000
Buckwheat.....	22	21	20	27	284,000	253,000	222,300	405,000
Potatoes.....	26	24	34	26	1,479,000	1,797,000	2,342,900	2,360,000
Turnips, etc.....	14	15	16	13	357,000	475,000	370,200	842,000
					tons.	tons.	tons.	tons.
Hay and clover....	19	29	21	16	152,000	247,000	190,900	178,000
Quebec—								
					bush.	bush.	bush.	bush.
Wheat.....	24	18	16	24	337,000	173,000	621,400	1,514,000
Oats.....	33	27	23	30	13,726,000	6,591,000	7,467,200	15,800,000
Barley.....	22	19	14	18	493,000	277,000	428,900	819,000
Rye.....	20	20	9	17	29,000	24,000	33,800	80,000
Buckwheat.....	21	18	15	19	537,000	345,000	404,900	895,000
Corn for husking...	17	12	9	13	86,000	39,000	162,200	156,000
Flaxseed.....	18	18	9	21	1,300	1,000	4,200	17,000
Potatoes.....	27	23	23	31	4,728,000	3,375,000	4,176,300	12,070,000
Turnips, etc.....	15	12	9	10	457,000	318,000	1,418,300	2,823,000
					tons.	tons.	tons.	tons.
Hay and clover....	22	39	29	19	812,000	2,037,000	1,468,900	1,292,000

II. Produce in Farmers' Hands on March 31, 1916-1919—concluded.

Field Crops.	Per cent of total yield on hand.				In farmers' hands on March 31.			
	1916	1917	1918	1919	1916	1917	1918	1919
	p.c.	p.c.	p.c.	p.c.	bush.	bush.	bush.	bush.
Ontario—								
Wheat.....	27	17	17	23	8,120,000	3,048,000	2,774,100	3,505,000
Oats.....	39	28	32	33	47,736,000	14,216,000	31,384,200	43,478,000
Barley.....	29	19	22	29	4,494,000	1,425,000	2,462,000	7,032,000
Rye.....	23	16	13	19	355,000	193,000	156,900	344,000
Buckwheat.....	24	18	19	25	867,000	457,000	577,100	1,150,000
Corn for husking...	24	13	13	22	3,367,000	775,000	774,800	2,863,000
Flaxseed.....	20	8	11	26	12,000	34,000	5,700	51,000
Potatoes.....	24	19	32	36	3,483,000	1,541,000	6,073,900	6,975,000
Turnips, etc.....	14	13	15	16	6,321,000	2,661,000	4,807,000	10,383,000
					tons.	tons.	tons.	tons.
Hay and clover....	23	31	27	18	939,000	1,897,000	1,376,200	827,000
Manitoba—					bush.	bush.	bush.	bush.
Wheat.....	21	16	14	14	14,561,000	4,747,000	5,745,600	6,747,000
Oats.....	46	39	30	36	23,345,000	18,891,000	13,612,500	19,610,000
Barley.....	33	22	18	27	5,497,000	3,020,000	2,867,400	7,550,000
Rye.....	44	39	12	19	92,000	217,000	76,600	748,000
Flaxseed.....	23	15	8	19	28,000	31,000	11,700	207,000
Potatoes.....	31	35	28	38	795,000	1,648,000	1,020,000	3,164,000
Turnips, etc.....	16	8	10	15	106,000	36,000	46,300	374,000
					tons.	tons.	tons.	tons.
Hay and clover....	28	33	25	20	25,000	47,000	18,800	15,000
Saskatchewan—					bush.	bush.	bush.	bush.
Wheat.....	21	21	13	16	47,106,000	30,987,000	15,329,800	14,799,000
Oats.....	48	45	35	38	69,632,000	73,475,000	43,124,800	40,756,000
Barley.....	40	33	23	23	3,809,000	3,272,000	3,235,600	2,734,000
Rye.....	33	48	12	32	67,000	263,000	109,800	454,000
Flaxseed.....	23	18	8	18	1,208,700	1,205,000	376,800	577,000
Potatoes.....	32	37	30	32	1,231,000	2,708,000	2,703,000	2,224,000
Turnips, etc.....	21	24	16	12	60,900	98,000	276,300	264,000
					tons.	tons.	tons.	tons.
Hay and clover....	29	28	23	26	10,200	16,500	85,000	94,000
Alberta—					bush.	bush.	bush.	bush.
Wheat.....	33	24	13	21	21,958,000	15,621,000	6,889,000	4,988,000
Oats.....	56	42	27	26	46,971,000	42,924,000	23,297,900	15,682,000
Barley.....	47	30	18	22	4,616,000	2,932,000	1,869,500	1,706,000
Rye.....	55	28	18	19	206,000	123,000	113,900	157,000
Flaxseed.....	45	28	12	39	302,000	365,000	117,400	187,000
Potatoes.....	42	36	31	27	1,690,000	1,722,000	2,296,800	842,000
Turnips, etc.....	35	24	22	39	139,000	114,000	499,800	919,000
					tons.	tons.	tons.	tons.
Hay and clover....	24	22	15	13	59,000	73,500	109,600	52,000
British Columbia—					bush.	bush.	bush.	bush.
Wheat.....	18	20	15	15	96,000	99,000	92,800	122,000
Oats.....	26	12	21	18	1,142,000	436,000	679,500	279,000
Barley.....	23	12	17	9	24,500	15,000	27,400	19,000
Potatoes.....	34	16	28	21	1,332,000	463,000	700,600	719,000
Turnips, etc.....	25	10	11	7	441,000	185,000	174,000	170,000
					tons.	tons.	tons.	tons.
Hay and clover....	19	11	17	8	76,000	51,000	40,600	17,000

III. Produce of Merchantable Quality, 1915-1918.

Field Crops.	Per cent of total yield merchantable.				Yield of harvest merchantable.			
	1915	1916	1917	1918	1915	1916	1917	1918
	p. c.	p. c.	p. c.	p. c.	bush.	bush.	bush.	bush.
Canada—								
Wheat.....	95	85	95	93	374,670,000	223,643,000	223,007,000	175,370,000
Oats.....	92	89	91	90	428,857,000	367,271,000	366,610,300	382,994,000
Barley.....	88	84	90	92	47,789,000	35,666,700	49,582,100	71,171,000
Rye.....	88	92	89	92	2,218,500	2,646,000	3,447,600	7,827,000
Buckwheat.....	83	78	76	75	6,512,000	4,606,000	5,426,100	8,566,000
Corn for husking....	78	58	50	67	11,142,000	3,648,000	3,914,800	9,489,000
Flaxseed.....	95	93	89	90	5,859,000	7,642,600	5,272,800	5,440,000
Potatoes.....	73	78	77	81	43,858,000	49,691,500	61,767,200	84,358,000
Turnips, etc.....	86	75	83	86	51,713,200	27,461,000	52,710,500	104,890,000
					tons.	tons.	tons.	tons.
Hay and clover....	86	90	87	89	9,093,600	13,617,000	11,923,600	13,141,000
P.E. Island—								
					bush.	bush.	bush.	bush. fift
Wheat.....	90	86	71	91	589,000	497,000	370,600	551,000
Oats.....	93	94	87	92	6,382,000	6,968,000	5,639,600	5,372,000
Barley.....	92	93	92	95	99,000	98,000	91,800	154,000
Buckwheat.....	81	87	86	89	61,000	59,000	62,400	109,000
Potatoes.....	63	81	79	76	2,239,000	5,173,000	4,838,800	4,075,000
Turnips, etc.....	80	84	78	79	2,841,000	3,205,000	3,193,300	3,391,000
					tons.	tons.	tons.	tons.
Hay and clover....	92	93	92	95	322,000	314,000	281,000	317,000
Nova Scotia—								
					bush.	bush.	bush.	bush.
Wheat.....	86	87	78	88	212,000	227,000	119,000	641,000
Oats.....	89	89	96	88	3,088,000	3,588,000	3,453,900	4,755,000
Barley.....	86	88	80	89	110,000	108,000	95,000	309,000
Rye.....	78	94	92	81	3,500	5,000	4,100	6,000
Buckwheat.....	82	83	79	77	182,000	203,000	180,800	343,000
Potatoes.....	65	82	77	77	3,116,000	5,687,000	5,523,200	7,528,000
Turnips, etc.....	81	79	83	78	2,907,000	2,872,000	2,650,200	7,270,000
					tons.	tons.	tons.	tons.
Hay and clover....	89	90	88	90	854,000	896,000	787,000	790,000
New Brunswick—								
					bush.	bush.	bush.	bush.
Wheat.....	94	86	82	87	251,000	208,000	157,400	818,000
Oats.....	92	89	79	91	5,093,000	5,375,000	4,377,300	6,417,000
Barley.....	91	85	87	86	44,000	38,000	34,500	140,000
Rye.....	—	—	—	100	—	—	—	5,000
Buckwheat.....	86	83	78	82	1,130,000	1,001,000	867,000	1,230,000
Potatoes.....	82	81	78	78	4,721,000	6,065,000	5,375,000	7,081,000
Turnips, etc.....	85	86	87	82	2,226,000	2,722,000	2,013,200	5,312,000
					tons.	tons.	tons.	tons.
Hay and clover....	91	85	88	87	720,000	723,000	799,900	967,000
Quebec—								
					bush.	bush.	bush.	bush.
Wheat.....	92	83	80	84	1,292,000	797,000	3,106,900	5,299,000
Oats.....	92	81	80	81	39,035,000	19,773,000	25,973,000	42,660,000
Barley.....	92	85	82	87	2,069,000	1,238,000	2,512,200	3,959,000
Rye.....	83	80	72	85	120,000	94,000	270,000	401,000
Buckwheat.....	84	79	71	70	2,157,000	1,516,000	1,916,300	3,298,000
Corn for husking....	83	78	75	75	421,000	251,000	1,352,000	899,000
Flaxseed.....	88	79	83	85	6,000	4,000	39,000	71,000
Potatoes.....	80	73	68	81	14,041,000	10,711,000	12,347,400	31,538,000
Turnips, etc.....	87	85	84	86	2,737,000	2,253,000	13,237,600	24,276,000
					tons.	tons.	tons.	tons.
Hay and clover....	88	89	83	89	3,240,000	4,649,000	4,204,000	6,052,000

III. Produce of Merchantable Quality, 1915-1918—concluded.

Field Crops.	Per cent of total yield merchantable.				Yield of harvest merchantable.			
	1915	1916	1917	1918	1915	1916	1917	1918
	p.c.	p.c.	p.c.	p.c.	bush.	bush.	bush.	bush.
Ontario—								
Wheat.....	82	78	88	71	24,916,000	13,986,000	14,360,100	10,821,000
Oats.....	86	75	90	93	105,138,000	38,078,000	88,268,000	122,530,000
Barley.....	87	79	90	93	13,334,000	5,923,000	10,071,900	20,550,000
Rye.....	87	88	90	90	1,356,000	1,063,000	1,086,300	1,632,000
Buckwheat.....	81	72	79	78	2,982,000	1,827,000	2,399,600	3,586,000
Corn for husking...	77	57	43	66	10,721,000	3,397,000	2,562,800	8,590,000
Flaxseed.....	79	64	75	82	49,000	27,000	39,000	161,000
Potatoes.....	58	66	79	80	8,267,000	5,355,000	14,995,000	15,501,000
Turnips, etc.....	87	67	83	86	38,401,000	13,713,000	26,599,000	55,811,000
Hay and clover....	81	92	89	88	3,289,000 tons.	5,629,000 tons.	4,536,300 tons.	4,045,000 tons.
Manitoba—								
Wheat.....	95	85	95	97	65,870,000 bush.	25,217,000 bush.	39,987,700 bush.	46,745,000 bush.
Oats.....	93	90	92	93	47,198,000	43,595,000	41,745,000	50,661,000
Barley.....	82	83	90	94	13,660,000	11,395,000	14,337,000	26,286,000
Rye.....	99	99	90	97	206,000	551,000	574,500	3,818,000
Flaxseed.....	81	96	87	91	97,000	200,000	127,600	993,000
Potatoes.....	75	87	77	89	1,924,000	4,097,000	2,805,100	7,409,000
Turnips, etc.....	90	86	95	91	599,000 tons.	389,000 tons.	439,900 tons.	2,270,000 tons.
Hay and clover....	90	93	93	90	81,000 tons.	132,000 tons.	69,800 tons.	67,000 tons.
Saskatchewan—								
Wheat.....	98	90	97	95	219,826,000 bush.	132,803,000 bush.	114,383,700 bush.	87,868,000 bush.
Oats.....	97	94	92	89	140,714,000	153,481,000	113,356,500	95,455,000
Barley.....	96	92	92	91	9,142,000	9,122,700	12,942,500	10,818,000
Rye.....	98	98	95	100	199,000	537,000	948,500	1,420,000
Flaxseed.....	97	93	93	91	5,097,000	6,223,600	4,380,300	3,827,000
Potatoes.....	83	87	85	80	3,193,000	6,367,500	7,658,500	5,769,000
Turnips, etc.....	88	83	86	98	255,200 tons.	340,000 tons.	1,485,200 tons.	2,159,000 tons.
Hay and clover....	96	94	97	95	33,600 tons.	555,000 tons.	358,500 tons.	344,000 tons.
Alberta—								
Wheat.....	92	76	96	92	61,215,000 bush.	49,467,000 bush.	50,872,400 bush.	21,852,000 bush.
Oats.....	93	91	94	89	78,005,000	93,001,000	81,111,300	53,687,000
Barley.....	94	78	90	87	9,233,000	7,624,000	9,347,600	6,748,000
Rye.....	89	90	89	63	334,000	396,000	563,400	520,000
Flaxseed.....	91	91	86	85	610,000	1,188,000	686,900	388,000
Potatoes.....	81	82	85	85	3,259,000	3,922,000	6,297,700	2,651,000
Turnips, etc.....	82	83	79	96	326,000 tons.	394,000 tons.	1,704,900 tons.	2,263,000 tons.
Hay and clover....	81	88	92	94	199,000 tons.	294,000 tons.	672,000 tons.	366,000 tons.
British Columbia—								
Wheat.....	95	89	92	95	499,000 bush.	441,000 bush.	569,000 bush.	775,000 bush.
Oats.....	96	94	83	94	4,204,000	3,412,000	2,685,700	1,457,000
Barley.....	92	97	93	99	98,000	120,000	149,600	207,000
Rye.....	-	-	-	100	-	-	-	25,000
Potatoes.....	78	80	77	82	3,098,000	2,314,000	1,926,500	2,807,000
Turnips, etc.....	82	85	82	88	1,421,000 tons.	1,573,000 tons.	1,297,200 tons.	2,138,000 tons.
Hay and clover....	91	91	90	89	355,000 tons.	425,000 tons.	215,100 tons.	193,000 tons.

STOCKS OF GRAIN IN CANADA ON MARCH 31, 1919.

The Dominion Bureau of Statistics has completed its annual inquiry for the purpose of ascertaining as nearly as possible the total quantities of grain (wheat, oats, barley and flaxseed) in Canada at the end of March. The inquiry was conducted by means of schedules issued to the managers of elevator, flour mill and railway companies requesting the actual quantities of wheat, wheat flour, oats, oatmeal, rolled oats, barley, barley meal, flax and linseed meal on hand or in transit on the morning of Monday, March 31, 1919. The quantities of grain in the terminal elevators at Fort William and Port Arthur and in the interior terminal elevators of the Dominion Government at Calgary, Moosejaw, Saskatoon and Vancouver and of the Canadian Government Railways at South Transcona, were furnished by the Board of Grain Commissioners for Canada. For the quantity of grain estimated to be in farmers' hands on March 31, use was made of the replies to the annual schedule addressed to Crop Correspondents as compiled in Table I on page 72 of this issue.

In the following statement (Table I) the results are given of the compilation of the returns received for wheat, and wheat flour expressed as wheat, as compared with the results of the similar inquiries of March 31, 1916, 1917 and March 30, 1918:—

I. Stocks of Wheat in Canada on March 31, 1916-17, March 30, 1918, and March 31, 1919.

Wheat in—	March 31, 1916.	March 31, 1917.	March 30, 1918.	March 31, 1919.
	bush.	bush.	bush.	bush.
Terminal elevators.....	26,063,316	24,441,799	4,149,357	31,243,073
Winter storage in vessels.....	2,447,386	89,245	2,882,141	241,605
Interior terminal elevators.....	5,716,498	5,168,242	1,098,610	2,447,371
Country elevators.....	43,996,131	30,549,209	10,459,466	16,514,133
Public elevators.....	3,326,417	2,516,461	1,935,639	19,536,882
Flour mills.....	5,277,196	4,884,825	4,802,236	5,390,066
Transit by rail.....	23,369,809	12,862,356	20,011,179	10,854,840
Farmers' hands.....	86,854,000	45,638,000	31,684,700	32,315,000
Totals.....	197,050,753	126,150,137	77,023,328	118,542,970

Adopting the simpler classification of elevators, flour mills, in transit by rail and in farmers' hands, the results of the inquiry for each of the four years, 1916, 1917, 1918 and 1919 in respect of wheat are as shown in Table II.

II. Stocks of Wheat in Canada on March 31, 1916 and 1917, on March 30, 1918, and on March 31, 1919.

Description.	March 31, 1916.	March 31, 1917.	March 30, 1918.	March 31, 1919.
	bush.	bush.	bush.	bush.
Elevators.....	81,549,748	62,764,956	20,525,213	69,983,064
Flour mills.....	5,277,196	4,884,825	4,802,236	5,390,066
In transit by rail.....	23,369,809	12,862,356	20,011,179	10,854,840
In farmers' hands.....	86,854,000	45,638,000	31,684,700	32,315,000
Totals.....	197,050,753	126,150,137	77,023,328	118,542,970

For oats, barley and flax, including quantities of oatmeal, rolled oats, barley meal and linseed meal, expressed as grain, the quantities returned as in Canada on March 31, 1917, March 30, 1918, and March 31, 1919, were as in Table III.

III. Stocks of Oats, Barley and Flax in Canada on March 30, 1918, and March 31, 1919.

Grain in—	Oats.		Barley.		Flax.	
	March 30, 1918.	March 31, 1919.	March 30, 1918.	March 31, 1919.	March 30, 1918.	March 31, 1919.
	bush.	bush.	bush.	bush.	bush.	bush.
Terminal elevators.....	7,044,494	4,236,660	2,408,343	4,617,581	870,198	492,547
Interior Terminal Eleva- tors.....	4,228,468	2,386,567	163,035	337,104	40,514	11,997
Country Elevators.....	9,986,840	7,309,486	1,178,349	1,893,736	535,061	355,506
Public Elevators.....	2,035,291	1,573,914	310,268	992,983	3,586	3,687
Flour Mills.....	1,174,944	2,303,362	131,436	293,814	10,121	17,382
Transit by rail.....	7,202,056	5,243,353	906,328	2,412,589	445,048	350,568
Farmers' hands.....	123,910,400	141,694,000	10,944,600	20,026,000	515,800	1,039,000
Totals.....	155,582,493	164,747,342	16,042,359	30,573,807	2,420,328	2,270,687
RECAPITULATION.						
Elevators, etc.....	23,295,093	15,506,627	4,059,995	7,841,404	1,449,359	863,737
Flour mills.....	1,174,944	2,303,362	131,436	293,814	10,121	17,382
Transit by rail.....	7,202,056	5,243,353	906,328	2,412,589	445,048	350,568
Farmers' hands.....	123,910,400	141,694,000	10,944,600	20,026,000	515,800	1,039,000
Totals.....	155,582,493	164,747,342	16,042,359	30,573,807	2,420,328	2,270,687

The total number of elevators licensed in Canada for the year 1918-19 is 3,791, and the replies received represent 3,263 elevators, or 86 p.c. of the total licensed. For flour mills, replies representing 501 mills were received from 850 mills circularized. The following statement shows the number of elevators and flour mills of which these inquiries have been made during each of the four years 1916 to

1919, together with the number and percentage of the returns received:

Year.	Licensed Elevators.	Returns received.	Returns in percentage of total.	Total Flour Mills circularized.	Returns received.	Returns in percentage of total.
	No.	No.	p.c.	No.	No.	p.c.
1916.....	3,059	2,700	88	500	250	50
1917.....	3,360	2,950	88	550	300	54
1918.....	3,694	3,246	88	683	410	60
1919.....	3,791	3,263	86	850	501	59

With an increasing number of licensed elevators the proportion of returns received has remained uniform at about 88 p.c. from 1916 to 1918, dropping to 86 p.c. in 1919. A certain number of country elevators are always closed at the time of the inquiry, and replies would therefore fail to be sent. In the case of the flour mills, the number circularized has increased from 500 in 1916 to 850 in 1919 and the proportion of replies from 50 to 60 p.c. in 1918 and 59 p.c. in 1919. The increased number of flour mills circularized in 1919 is due to the issue by the Department of Trade and Commerce of a specially compiled list of the flour mills of Canada. Returns from most of the larger mills have been received, those in default representing as a rule the smaller concerns whose aggregate stocks would not materially affect the totals shown.

The returns actually received and compiled, including elevators, flour mills, railway companies and crop correspondents, show that on March 31, 1919, the quantity in Canada of wheat, and wheat flour expressed as wheat, was in round figures 118½ million bushels, as compared with 77 million bushels last year, 126 million bushels in 1917 and 197 million bushels in 1916. The total for 1919 includes 75.4 million bushels in elevators, flour mills and in winter storage in vessels, 32.3 million bushels in farmers' hands, and 10.8 million bushels in transit by rail. Of oats, including oat products expressed as oats, the total quantity in Canada on March 31, 1919, was about 164¾ million bushels, comprising 17.8 million bushels in elevators and flour mills, 141.7 million bushels in farmers' hands and 5.2 million bushels in transit by rail. The total quantity in Canada on March 31, 1919, of barley was about 30½ million bushels, of which 8,135,000 bushels were in elevators, etc., 20 million bushels in farmers' hands and 2,413,000 bushels in transit by rail. Of flaxseed the quantity in Canada on March 31, 1919, was 2,271,000 bushels, including 881,000 bushels in elevators and mills, 1,039,000 bushels in farmers' hands and 351 million bushels in transit by rail.

The quantities of grain in transit by rail, as given above, do not include produce of the United States, amounting to about 455,000 bushels of wheat, 85,000 bushels of oats and 17,000 bushels of barley.

DISTRIBUTION AND EXPORTABLE SURPLUS OF WHEAT AND OATS.

On previous occasions calculations have been recorded in the Monthly Bulletin showing the distribution of the Canadian wheat crop, and the quantities available for seed, home consumption and export. The last article of this kind, covering the series of years from 1910-11 to 1914-15, appeared in the Census and Statistics Monthly of March, 1915 (Vol. 8, No. 79, p. 74); but a year ago, in the April issue of the Monthly Bulletin of Agricultural Statistics (Vol. 11, No. 116, p. 98), a note appeared on the estimated exportable surplus of wheat and oats from the crops of 1917. In the article of 1915, the calculations were for the fiscal years ended March 31, and were carried up to 1915, when the war had been only seven months in progress. It is now proposed to deal similarly with the wheat crops of the years 1915 to 1918, covering the greater part of the war, and it will be more convenient to use the Canada crop year ending on August 31. In Table I, therefore, for each of the four crop years ending August 31, 1919, are shown the production, imports, exports and home consumption of wheat.

I. Distribution of the Canadian Wheat Crop, 1916-1919.

Distribution.	1915-16.	1916-17.	1917-18.	1918-19.
	bushels.	bushels.	bushels.	bushels.
Gross production.....	393,542,600	262,781,000	233,742,850	189,075,350
Imports of wheat and flour.....	276,360	309,032	261,531	300,000
Total.....	393,818,960	263,090,032	234,004,381	189,375,350
Loss in cleaning, 3 per cent.....	11,806,278	7,883,430	7,012,284	5,672,259
Balance.....	382,012,682	255,206,602	226,992,097	183,703,091
Grain not merchantable.....	18,872,600	39,138,000	10,735,850	13,705,350
Balance.....	363,140,082	216,068,602	216,256,247	169,997,741
Exports of wheat and flour.....	289,794,162	170,803,801	155,235,260	190,000,000
Balance.....	73,345,920	45,264,801	61,020,987	79,997,741
Seed at 1.75 per bush. per acre.....	27,000,000	26,150,000	31,024,000	32,000,000
Balance available for food.....	46,345,920	19,114,801	29,996,987	47,997,741

¹Estimated.

In this table the final balance available for food is shown after adding the quantity imported, allowing for loss in cleaning, deducting grain of non-merchantable quality and deducting the quantity exported. From the gross estimated production, 3 p.c. is deducted to allow for loss in cleaning, this being the average rate ascertained by practice. The deduction for grain not of merchantable quality varies with the character of the season, and the quantity deducted is as reported annually at the end of March by the crop correspondents of the Dominion Bureau of Statistics. The imports and exports include wheat flour expressed as bushels of wheat. For

seeding, the allowance is at the average rate of $1\frac{3}{4}$ bushel per acre. For the year ending August 31, 1919, several of the items are hypothetical estimates. The actual imports for the seven months September, 1918, to March 31, 1919, were 286,804 bushels and the quantity for the year is placed at 300,000 bushels. The actual exports of wheat and flour for the seven months September to March were 46,662,646 bushels. For the first three years of the table the allowance for seed is based upon the acreage estimated to be sown, but for 1919 the area allowed for is 18 million acres, which includes the area sown to winter wheat last fall.

In previous calculations the quantity allowed for food has been according to an assumed annual average per capita consumption of $6\frac{1}{4}$ bushels to which previous experience pointed as the rate prevalent in Canada before the war. But during the war the increasing scarcity and dearness of this principal article of food, as well as the military importance of maintaining the overseas supplies, has resulted in strong efforts to effect economies in home consumption by the substitution of other foods and by altering the standard of flour. Doubtless these measures have had their effect in reducing the average per capita consumption of wheat in Canada. If we may count upon the substantial accuracy of the other figures in the table, it will be seen that the quantities shown as the balance available for food, viz., 46,345,920 bushels in 1915-16, 19,114,801 bushels in 1916-17 and 29,996,987 bushels in 1917-18, making a total for the three years of 95,457,708 bushels, when divided by the estimated population (excluding troops overseas) and numbering for the three years 24,050,640 (7,859,114 in 1915-16; 8,016,578 in 1916-17 and 8,174,948 in 1917-18) give an average per capita annual consumption of 3.95 bushels. Over the four years ending August 31, 1919, the quantities available for food represent an average per capita annual consumption of 4.39 bushels, the population for 1919 being raised to 8,600,000 by natural increase and by the returning soldiers, and the total available for food being 143,455,449 bushels as shown more clearly in Table II.

II. Aggregate Distribution of the Canadian Wheat Crop, 1916-1919.

Distribution.	Four years ending August 31, 1919.	Distribution.	Four years ending August 31, 1919.
	bushels.		bushels.
Gross production.....	1,079,141,800	Exports of wheat and flour....	705,833,223 ¹
Imports of wheat and flour...	1,146,923 ¹		
Total.....	1,080,288,723	Balance.....	259,629,449
Loss in cleaning, 3 per cent....	32,374,251	Seed at 1.75 bush. per acre....	116,174,000 ¹
Balance.....	1,047,914,472	Balance available for food annual.....	143,455,449
Grain not merchantable.....	82,451,800	Average annual per capita consumption during four years.....	4.39
Balance.....	965,462,672		

¹Partly estimated.

For an average per capita consumption of five bushels, the population of 1919 would require 43 million bushels, and it will be seen from Table I that the balance shown to be available on the assumption of a total export of 90 million bushels is close upon 48 million bushels. As shown by the inquiry made at the end of August last year (see Monthly Bulletin for September (Vol. 11, No. 121, p. 259), only about 4 million bushels remained as the "carry over" into the crop year 1918-19.

Studying the question further in the light of the data respecting grain stocks in Canada as collected at the end of March (see page 78 of this issue), we find that the total quantity of wheat in Canada on March 31, 1919, was placed at 118,542,970 bushels, of which 32,315,000 bushels were reported as being in farmers' hands, this latter quantity thus tallying very closely with the allowance in Table I of 32 million bushels for the seeding this year of 18 million acres. The balance of 86,228,000 bushels represents the quantity available for seed, 32 million bushels, and for five months' food, say, 18 million bushels, a total for home requirements of 50 million bushels. This leaves 36,228,000 bushels as the quantity available for export during the five months April to August, which added to the actual exports for the seven months September to March, viz., 46,662,646 bushels, make the total exports for the year to be 82,890,646 bushels, or say 83 million bushels. The figures in Table I allow for a total export of 90 million bushels and leave a balance of about 48 million bushels for the year's food. The difference of about 7 million bushels is relatively not a very large one, and not more than that which may have escaped the annual stock-taking at the end of March, or which may constitute the "carry over" into the next crop year beginning September 1, 1919. It may be mentioned that in last year's Monthly Bulletin of April the exportable surplus for the crop year 1917-18 was estimated at about 148 million bushels. It turned out to be actually 155,235,260 bushels, an underestimate of about 7 million bushels.

Table III shows the production, imports and exports of oats for the same period of four years; but the figures for 1918-19 are estimates in respect of the imports and exports for the five unexpired months of the crop year.

III. Distribution of the Canadian Oat Crop, 1916-1919.

Distribution.	1915-16.	1916-17.	1917-18.	1918-19.
	bushels.	bushels.	bushels.	bushels.
Gross production.....	464,954,000	410,211,000	403,009,800	426,312,500
Imports.....	2,276,844	1,170,525	16,078,857	5,000,000 ¹
Total.....	467,230,844	411,381,525	419,088,657	431,312,500
Grain not merchantable.....	36,097,400	42,940,000	36,399,500	44,318,500
Balance.....	431,133,444	368,441,525	382,689,157	386,994,000
Exports.....	63,508,855	61,151,887	32,106,213	21,000,000 ¹
Balance.....	367,624,589	307,289,638	350,582,944	365,994,000
Seed at 2½ bush. per acre.....	27,491,217	33,283,500	36,975,840	37,500,000 ¹
Quantity retained for home consumption.....	340,133,372	274,006,138	313,607,104	328,494,000

¹Estimated.

For the first seven months, September, 1918, to March, 1919, the actual imports of oats and oatmeal expressed as oats were 3,477,859 bushels and the exports were 8,805,464 bushels. Oats are used in Canada chiefly for the feeding of farm animals, and only a relatively small proportion is made into oatmeal for human food. Table III in the preceding article on Stocks of Grain in Canada on March 31, 1919, shows that the total quantity of oats in Canada at that date was about $164\frac{3}{4}$ million bushels as compared with about $155\frac{1}{2}$ million bushels on March 30, 1918. Of these quantities all but about 23 million bushels in 1919 and $31\frac{1}{2}$ million bushels in 1918 were reported as in farmers' hands, representing probably for the most part quantities retained for seeding and for local consumption by farm live stock.

REPORTS FROM THE PROVINCES.

Maritime Provinces.—The winter was unusually mild, and reports at the end of March state that there is every appearance of an early spring, with fields bare of snow and prospects of early pasture. All stock is in healthy condition, and the milk supply is good, with high prices stimulating production. There is a good market for all classes of animals. Wool prices are declining.

Quebec.—Live stock in general have wintered well, because the weather was mild. Horses are in good condition, with a few exceptions where animals are suffering from gripe or strangles. Milch cows have suffered most; they look thin. The inferior quality of silage, grain and straw, and the want of hygiene in the stable, was the cause of a considerable number of deaths. Milk production is making good progress. Sheep and swine are in good condition. Concerning grain, enough remains for seeding purposes only. Hay, oats and mill feed are very scarce. Straw is of very poor quality. Farmers were forced to ration all animals on account of the exorbitant prices of feed. They experienced great difficulty in keeping cattle in good condition. With the exception of horses, there is a good demand for all live stock. High prices prevail.

Ontario.—Throughout the province the winter was so mild that animals did not require so much fodder; and owing to the high prices of grain farmers practised very careful feeding. Then, too, many farmers, tempted by the high prices of last fall and winter and lacking confidence in the spring market, sold off many cattle, so that fewer than usual remained to be fattened during the winter. As a result, at the end of March, the supply of feed stuffs was sufficient to last till pastures should be ready. Generally speaking, all animals were reported as having wintered well. Here and there cases of sickness were reported amongst swine and cattle. The trouble with the latter is supposed to have resulted from the feeding of spoiled silage. The market for live stock is excellent for all classes of animals except horses, which are said to be almost unsaleable except for young, heavy stock. Few horses are being raised, and

it is suggested that later on a shortage may arise. Milch cows are in great demand at extraordinarily high prices, and the dairying outlook is good. There is also a good demand for young beef stock for fattening on the grass, as this requires less labour than dairy cattle. The price of pork products is at high water mark, and a good increase in the number of swine is indicated in many districts. Mutton is bringing good prices, but the price of wool is going down somewhat. Reports of sheep-killing by dogs have come from several counties. Many farms are changing hands, and values are said to have increased as much as \$15 to \$20 per acre. The labour supply is still inadequate, and may result in curtailment of crops requiring much cultivation.

Prairie Provinces.—Live stock everywhere were reported as being in healthy condition, though rather poor in flesh, owing to the short hay crops. The winter however was a mild one, and in many places animals ran out of doors and fed from the stacks and the stubble. In some districts however feed was beginning to run short, and it has been necessary to import hay. Warm weather and early pastures are hoped for. Market prices are good for all animals, except in the case of horses, which are in poor demand except for the heavy draft classes. A good supply of moisture has soaked into the ground, and as a large amount of ploughing was done last autumn, the outlook is good.

British Columbia.—All live stock wintered well, and are in good condition. The winter was mild, but very long; in some districts the snow remained until the last week in March. As a result some cattle were underfed towards spring. There is not much demand for horses and prices are low. Good cows are in demand and prices are high. Few sheep are kept. Prices are good. There is a slight decrease from last year in prices of swine, and farmers do not find it profitable to keep many through the winter on account of the high cost of feed; much of the hay and feed is imported. The seeding is progressing well, and the outlook for orchard crops is good.

CROP REPORTS FROM PROVINCIAL GOVERNMENTS.

Ontario.—The Ontario Department of Agriculture reports as follows: April 14: "Reports regarding the condition of fall wheat are most favourable. Winter injury has been unusually light. The Kent representative states that some farmers in that county are of the opinion that the fields are too thick. It is rather too early to determine the extent of winter-killing of clover and alfalfa, but the injury does not seem to be as great as was feared a month ago, and fair yields of hay are now expected, should no further harm occur. Recent rains have put new vigour into all the wintering crops. Heavy rains during the last week or so have hindered field operations, and consequently seeding generally will not be much, if any, earlier than usual. The roads also have been put in bad condition." April 21:

"Seeding has been largely prevented by the frequent rains of the past week or two, and the cool weather has been delaying growth. However, early sown spring wheat and oats are reported to be above ground in some of the Lake Erie counties. Fall wheat so far is practically uninjured, except on badly drained land, and it promises to be a record crop. Clover has not done so well, having suffered more or less from heaving in some localities, although many fine fields are also reported. Alfalfa looks to be in fair condition. All these crops have been much helped by the rains which have recently prevailed." May 5: "Continued wet and cool weather has delayed the sowing of spring grains to such an extent that up to the present time not more than one-third of the area intended has been got in, although there is yet time, with favourable weather prevailing, to catch up with the majority of crops. Some representatives, however, fear that there will not now be as much spring wheat sown as was expected. Except on very light or low land fall wheat looks almost perfect. There are odd complaints of the young plants being slightly touched by spring frosts. Clover has been helped by the frequent rains of the last two weeks, and is looking better than earlier in the season. Alfalfa is also said to be in fairly good condition."

Manitoba.—The Manitoba Department of Agriculture reports (April 30) as follows: "Wheat seeding began at a few points as early as April 15, and in these places it is well under way. At a great many other points, however, farmers have got into the swing of seeding only during the past few days. Correspondents almost universally state that there is a good seed bed with abundance of moisture in the subsoil; in fact, the supply of sub-surface moisture seems to be considerably better than usual at this time of year. The supply of seed is fairly satisfactory. In some districts oats have been brought in for seeding. In many places there was scarcely enough winter feed, but the mildness of the winter helped somewhat; and there is no evidence of the stock of animals being reduced through feed shortage. The general trend of reports as to condition of animals is satisfactory, and the answers to a question as to animal health are almost universally satisfactory. Quite a large number of correspondents observe a tendency to keep more live stock, and the general attitude of agriculture seems to be aggressive, although a shortage of suitable farm labourers exists and wages average from \$60 to \$65 per month and board."

Saskatchewan.—The Saskatchewan Department of Agriculture telegraphed as follows: April 28: "Seeding now general, some parts of districts three (south central) and four (southwestern) report 70 per cent wheat sown. No damage to winter rye, and good moisture conditions in all parts but district nine (northwestern) where rain is badly needed. Every indication of rain here to-night. Land in ideal working condition." May 12: "Ninety-five per cent wheat and 25 per cent oats sown. No damage to crops from any cause. Moisture conditions excellent."

DOMINION EXPERIMENTAL FARMS AND STATIONS.

Central Farm, Ottawa.—The weather during March has been variable, with considerable rain or snow experienced from week to week, and some days quite fine and mild, and others cold and windy. The highest temperature recorded during the month is 47, and the lowest -7.8 , while a year ago the maximum was 51.6 and the minimum -6 . The mean temperature is 25.75, as against 25.27 a year ago and an average mean temperature of 23.35 for March during the previous seven years. The precipitation, which is much heavier than usual, totals 4.53 inches, made up of 1.78 inch of rain and 27.50 inches of snow; whilst in March, 1918, the precipitation amounted to 1.92 inch and consisted entirely of snow. The bright sunshine averages 4.78 hours a day, compared with 6.79 hours a day for the corresponding period of last year.

Charlottetown, P.E.I.—R. D. L. Bligh, in charge, reports:—"The mild weather that has prevailed throughout the winter has continued during March. The month has been characterized by an absence of zero weather, bad storms, and snowfalls with the exception of a fall of one inch, which occurred on the 31st. The month has been further marked by bright, warm days, only seven days being without sunshine. The mean temperature is 27.61, as compared with 19.95 in 1918 and an average mean temperature of 25.36 for March for the previous seven years. Rain has fallen on ten days and snow on one day, aggregating 3.27 inches, the heaviest rainfall being 0.83 of an inch on the 30th. The continued mild weather removed the ice from the rivers early in the month. The fields have been bare, with the exception of an occasional snowdrift, while the frost is almost out of the ground at the close of the month. The gradual thawing of the snow without heavy rains, prevented surface washing of the fields. The hay fields apparently survived the winter without injury and are showing slightly green at the end of the month."

Kentville, N.S.—W. S. Blair, Superintendent, reports:—"March, like February, has been a very mild month. The temperature went below 20 degrees on eight days only. The coldest day was the 14th, when the temperature went to 8 degrees. The average mean temperature for the five previous years was 26.51, as compared with 33.32 for March, 1919. No snow has been recorded during the month, which is very unusual. Rail fell on twelve days during the month, the total being 2.38 inches, of which 0.69 of an inch fell on the 10th. The sunshine has been about normal. March closes with very little frost in the ground and the fields generally are free from excessive surface water."

Nappan, N.S.—W. W. Baird, Superintendent, reports:—"The weather during the first week in March was for the most part fine, light rainfall being recorded on the night of the 5th and morning of the 6th, followed by a light snowfall on the 7th. During the next two weeks the weather was unsettled. A heavy wind and rain storm

was experienced on the 9th and 10th, followed by a snow-squall on the 13th. The remainder of the month continued unsettled with alternate rain and snow-squalls; but, taken on the whole, March has been exceptionally mild, with very little snowfall and light frosts. The ground has been bare most of the time. Towards the latter part of the month frost came out of the ground quite rapidly. The lowest temperature recorded is 0, compared with -18 for March, 1918. The mean is 29.75 as against 20.77 a year ago. The snowfall is 23 inches as compared with 2 inches; and the sunshine 120.9 hours as against 100.8 in 1918. Market conditions for farm produce and the demand for the same have been only fair. Hay remained fairly stable for good qualities. Pork has been low, and eggs and potatoes dropped considerably in price. Beef has been on the incline. All dairy produce has remained strong; consequently, trade has been only light. The work that has engaged attention at this Farm, other than caring for live stock, poultry and bees, has included the starting of incubators and brooders for the hatching and rearing of chicks, over 100 chicks being hatched during the month; cleaning up scattering logs; moving mill to brow; chopping wood and clearing land; crushing grain and hauling manure; hauling hay and straw for stock; dehorning young stock; and cleaning seed grain for spring seeding."

Fredericton, N.B.—W. W. Hubbard, Superintendent, reports:—" March, like the preceding months of the year, brought fine, moderate weather. The precipitation, 2.25 inches, is little more than half the 45-year average of 4 inches; and the mean temperature is 29.59 compared with a March average of 26. Rain and thawing weather began on the 19th and the snow all disappeared in a few days, there being little frost recorded after that date. This early break-up was a cause of great inconvenience and loss to the country, as ice has become unsafe, and roads, even in the woods, are almost impassable. Should frosty nights and warm days follow in April, there will be danger of winter-killing of grass and fall grain. All live stock has come through the winter well, with a small consumption of fodder. There is a good lamb crop at the Experimental Station. Seed potatoes have wintered well and will be distributed as soon as weather permits."

Ste. Anne de la Pocatière, Que.—Jos. Begin, Superintendent, reports:—" The weather during March has been rather mild and cloudy, with a greater precipitation than usual. The highest temperature recorded is 56.2; the lowest -3.8; and the mean 24, compared with a maximum of 45.8, a minimum of -6.6 and a mean temperature of 19.1 in March, 1918. The precipitation totals 4.03 inches, made up of 3.50 inches of snow, which fell on ten different days, and 0.53 of an inch of rain, which fell on five different days; against 0.82 of an inch last year, made up entirely of snow. The bright sunshine averages only 4.2 hours a day, whilst in March, 1918, it averaged 6.88 hours daily. There is now more snow on the ground than usual, and the roads have been very good during the last

week of the month; farmers around here have taken advantage of the same for hauling lumber, pulpwood and wood for fuel. A great quantity of seed grain is being imported throughout this district, and the farmers are well advised in getting their supplies of seeds early. Farmers are now busy in their maple bushes, having begun tapping the trees about the 22nd, and, although very little sap has been obtained so far, a good return is expected. There has been much stir in the hay market, the price is high and high grade hay is scarce. Samples of seeds of different kinds have been prepared during the month for the spring distribution, which is just beginning."

Cap Rouge, Que.—G. A. Langelier, Superintendent, reports:—"March has been warmer and duller, and has experienced much more precipitation than the average for the corresponding period during the last eight years, the figures being, respectively, 24.82 and 20.78 for mean temperature, 113.2 and 139.8 hours for sunshine, and 5.05 and 2.96 inches for precipitation. Work at the Station has consisted mainly in the care of stock and poultry and of roads and fences, in repairs to implements and buildings, and in cleaning seeds. Farmers of the district have taken advantage of the good roads, during the latter part of the month, to haul hay and straw, both of which are selling at such high prices that live stock may be neglected if this keeps on. A great many people have tapped maple trees this spring and there probably will be a large quantity of sugar and syrup made in the district if the season proves favourable."

Lennoxville, Que.—J. A. McClary, Superintendent, reports:—"The mean temperature for March is 27.56, the highest 60, and the lowest 1, compared with a mean of 22.72, maximum of 57, and minimum of -25 for the same period last year. The sunshine recorded totals 122.6 hours; compared with 153.7 hours a year ago; while the precipitation amounts to 2.22 inches, compared with 1.60 inch in March, 1918. The weather has been quite mild, and practically all snow was gone, until the 28th, when a storm set in and at the close of the month there is practically eight inches of snow covering the ground. It is thought that this fall of snow will be very beneficial to vegetation, by helping to absorb the frost in the ground and to protect the young clover and grass roots. The crop of maple syrup and sugar harvested during the week ended March 29th has been very satisfactory, both as regards quantity and quality. On the 28th, five days earlier than usual, the ice cleared out of the St. Francis River, without any damage being caused by high water."

Brandon, Man.—W. C. McKillican, Superintendent, reports:—"March has been cold and raw. The mean temperature for the month, 9.3, is low compared with other years. The snowfall for the whole winter is light. The snow drifted badly during March, but previous to this there had been practically no drifting. There was some wheeling on the 22nd of the month, and by the 28th the snow was going fast. On the Experimental Farm, the activities, in addition

to caring for the live stock, have included preparatory work for spring operations, such as the cleaning and hand-picking of grain."

Indian Head, Sask.—C. B. Nourse, Assistant to the Superintendent, reports:—"March came in with cold weather, which continued up to the 28th, when it moderated considerably and remained mild to the 31st, the snow melting slowly and the roads cutting up considerably. Snow has been recorded on four days, with a total fall of 10.25 inches for the month. The work on the Experimental Farm has included hauling straw and manure, cleaning and hand-picking seed grain, crushing feed for stock, getting harness and machinery in shape for spring work, and caring for the live stock and poultry."

Rosthern, Sask.—Wm. A. Munro, Superintendent, reports:—"March has been the only stormy month of the season. There have been several days of snow and wind, which made sleighing very difficult. At the Experimental Station, nearly four hundred bushels of wheat for seed have been cleaned and sold, the sample being the best ever grown at the Station. There were purchased during the month two Clyde mares, one of exceptionally good breeding. Plans are under way for the beginning of a poultry plant at this Station this year, to include an administration building, two permanent hen-houses, each with a capacity for 100 hens, and six colony houses. For the present, there is to be but one breed of hens, Barred Plymouth Rock, the foundation being secured from a bred-to-lay strain from the Experimental Farm at Indian Head."

Scott, Sask.—M. J. Tinline, Acting Superintendent, reports:—"March opened cold, and not until the 18th did the thermometer register above freezing. The mean temperature, 5.14, is very low when compared with an average mean for eight years of 14.21. The snowfall has been above the normal. At the end of the month, there is an average of about one foot of snow, fairly uniformly distributed. The total snowfall to date for the winter is $22\frac{3}{4}$ inches, which should provide sufficient moisture for the germination of early sown seed. The open weather during the early part of the winter effected a saving in feed, and, as a result, most farmers will have sufficient to last through seeding."

Lacombe, Alberta.—B. C. Milne, Assistant to the Superintendent, reports:—"March, while appearing to be one of the coldest months of the winter, judging by two weeks of below zero weather experienced, has had its average temperature brought up by the warm weather toward the end of the month. A few inches of snow that fell melted slowly, and the water was absorbed into the soil to a considerable extent. Prices of live stock have been firm throughout the month, and in the case of hogs they are advancing at the close. The temporary depression in cereal prices has the effect of holding grain off the market at country points."

Lethbridge, Alberta.—W. H. Fairfield, Superintendent, reports:—"The highest temperature recorded during March is 62, the lowest —35 and the mean temperature is 16.4; while a year ago the

extremes were 67.5 and -10, respectively, and the mean was 32.30. Zero weather prevailed till after the middle of the month. No work on the land has been possible. The precipitation aggregates $\frac{3}{4}$ of an inch and this, with about one inch recorded during February, has provided a little moisture with which to begin spring operations. In southern Alberta generally, the soil is much drier than usual at this season of the year."

Invermere, B.C.—G. E. Parham, Superintendent, reports:—"The weather during the first ten days of March was cold, with a mean temperature of 14.8. March 1st, when -17 was recorded is, with one exception, the coldest day of the season. On the 11th, the weather began to moderate, and, with a rising thermometer and an abundance of sunshine, winter conditions rapidly disappeared. The spring thaw commenced on the 14th, and, although the higher and less exposed areas in the district retained a substantial covering of snow until the last week of the month, the Experimental Station and land in the vicinity were bare by the 17th. Sleighing, which had been possible since December 4th, was discontinued on the 15th. The precipitation of the month, though only 0.65 of an inch, is considerably above the average, and the sunshine record of 167.5 hours is the highest since 1915. Work at the Experimental Station has consisted in recleaning and hand-picking seed grain, and hauling manure and shale,—the latter for the improvement of the farm roads. In the poultry department, the incubators were started on the 15th, with 665 eggs, all of White Wyandotte and Barred Plymouth Rock. The results of further experiments in wintering bees were observed. Of the ten colonies wintered in various ways, two were dead—one in the cellar and one in the buried trench, but the remaining colonies opened up in strong condition, the strongest being found in the double-walled hive."

Summerland, B.C.—R. H. Helmer, Superintendent, reports:—"March certainly came in like a lion, it snowed all day on the 1st, this being the heaviest snowfall of the season. Perfect weather has been experienced during the last two weeks, and the absence of high winds has been remarkable. Alfalfa, clover, and grasses are starting to make growth. Winter grains are looking promising and vetches sown last fall are growing well. Owing to the heavy snow late in the season, work on the land is later than usual in starting the season, which rushes spring work in the district, and teams are said to be hard to get. Pruning in the district, is about completed and spring work has been started everywhere."

Agassiz, B.C.—W. H. Hicks, in charge, reports:—"March came in with severe weather, the thermometer on the 1st registering 15, the lowest during the whole winter. Snow fell to the extent of twelve inches; this has all disappeared with the exception of some few drifts along the hedges and fences. The latter part of the month has been fine, with only a few showers of rain and plenty of sunshine. Ploughing is universal throughout the district and seeding is well under way. Good growth is being made by grasses and clover. In addition to

caring for the live stock, the work on the Experimental Farm has included hauling manure and preparing the land for seeding."

Sidney, Vancouver Island, B.C.—Lionel Stevenson, Superintendent, reports:—"Favourable weather for farm operations has been experienced during the greater part of March. Autumn sown cereals made good development after having passed the winter period without any loss. Oats, barley, wheat and peas have attained a height of six inches by the close of the month. Considerable ploughing has been done during the month and a small quantity of oats sown on high light land. Considerable planting of fruit trees and berry bushes has been accomplished through the district. Auction sales have been numerous in the district and prices obtained for live stock and implements have been up to average. Considerable activity was noticed toward the general increase in the poultry stock of the district. Farm labour is not at all abundant, and the wages asked seem to be higher than farmers can pay and continue on the land."

Meteorological Record for March, 1919.

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of March, are given in the following table:—

Experimental Farm or Station at—	Degrees of Temperature F.			Precipitation in inches.	Hours of Sunshine.	
	High-est.	Low-est.	Mean.		Pos-sible.	Actual.
Ottawa, Ont.....	47.0	— 7.8	34.74	4.53	370	148.3
Charlottetown, P.E.I.....	43.0	4.0	27.61	3.25	370	129.2
Kentville, N.S.....	48.0	8.0	33.32	2.38	370	130.1
Nappan, N.S.....	53.0	0.0	29.75	2.24	370	120.9
Fredericton, N.B.....	55.0	— 7.0	29.59	2.25	370	159.6
Ste. Anne de la Pocatière, Que.....	56.2	— 3.8	24.0	4.03	370	130.6
Cap Rouge, Que.....	49.0	—10.0	24.82	5.05	368	113.2
Lennoxville, Que.....	60.0	1.0	27.56	2.22	370	122.6
Brandon, Man.....	39.0	—29.5	9.3	0.90	370	127.0
Indian Head, Sask.....	40.0	—33.0	10.09	1.02	370	129.5
Rosthern, Sask.....	39.7	—33.5	6.38	1.60	369	192.7
Scott, Sask.....	38.5	—33.8	5.14	.90	367	168.7
Lacombe, Alberta.....	56.3	—30.3	28.77	.77	370	156.1
Lethbridge, Alberta.....	62.0	—35.0	16.14	.75	370	152.0
Invermere, B.C.....	61.0	—17.0	28.11	.65	369	167.5
Summerland, B.C.....	61.0	8.0	35.70	.87	370	141.3
Agassiz, B.C.....	68.0	15.0	42.48	5.07	370	120.0
Sidney, Vancouver I., B.C.....	62.0	29.0	41.9	3.42	370	130.5

Ottawa, April 11, 1919.

J. H. GRISDALE,
Director Experimental Farms.

COLLECTION OF ANNUAL AGRICULTURAL STATISTICS.

During the past two years the Dominion Bureau of Statistics at Ottawa, acting in concert with each of the nine Provincial Governments, has inaugurated and carried through successfully improved plans for the collection and publication of annual agricultural statistics for the Dominion of Canada. Probably no official statistics present more difficulty than do those of agriculture. Farming is essentially an individualistic industry, its operations are imperfectly understood by outsiders and the problem of securing trustworthy annual figures of total yield and value is often of baffling character.

From 1908 to 1917 the Census and Statistics Office, now the Dominion Bureau of Statistics, issued annual estimates of the area and yield of field crops and of the numbers of farm live stock, these estimates being compiled from the returns of crop correspondents in percentages of the previous year's data. The method proved faulty for other than tentative estimates, and it was especially unreliable as applied to the smaller field crops. The plan now in operation is based upon an annual ascertainment of the areas sown to the principal field crops as collected in June immediately after seeding. Later in the year, after harvest, and after threshing, estimates are obtained through crop correspondents of the average yields per acre, which multiplied by the areas, give the total yields. The total yields, when multiplied by average values per unit give the total values. In June every year the areas are collected by the distribution of cardboard schedules to as many individual farmers as it is possible to reach through the agency of the rural school teachers and children. The cards when completed are first sent to the provincial Government, who after having them sorted into counties or districts, transmits them to the Dominion Bureau of Statistics at Ottawa for final compilation into totals by adding machinery.

The figures thus actually collected form a fairly sure basis for estimating the totals according to the ratio which subsists between the number of farms and the returns actually received. The final results are adjusted after consultation between the Dominion and provincial authorities, and identical figures are then released for simultaneous publication by the Dominion and Provincial Governments, the former publishing the figures for each province and for the whole of Canada, and the latter publishing the figures for their respective provinces. There is in the case of one or two provinces some variation of procedure. For instance, in Ontario the process is reversed, and the cards are issued and collected by the Dominion Government for compilation by the Provincial Government, the final estimates being calculated from the total acreage according to plans long in use. In British Columbia the cards are addressed and mailed by the Dominion Government direct to the farmers, but the compilation is effected locally. Other variations apply to the printing and provision of supplies, these being undertaken in some cases by

the Dominion, and in other cases by the province. But the essential feature is that division of labour is mutually agreed upon, and the results obtained are identical, so that the conflict of figures which used to characterize the government agricultural statistics of Canada is now happily a thing of the past. Similar procedure is applied to the numbers of farm live stock as classified by ages, and information as to the number of living animals on the farm in June is collected on the same cards as used for crops. The system was applied experimentally for the first time in June, 1917, in four provinces. Last year it was extended to all the nine provinces. The proportion of returns in the first year varied from 21 to 46 p.c.; in the second year the lowest proportion was 20 p.c. and the highest 54 p.c.

As the time is now at hand for the third year's application of the system in the four provinces (Quebec, Saskatchewan, Alberta and British Columbia), and for the second year's application in the other provinces, it is desirable to call the serious attention of farmers in all parts of Canada to the duty imposed upon them of filling up the simple schedule required. On or about June 14 the farmers of Canada will receive through the rural school children a simple cardboard schedule to be filled up and returned to the school teacher of his school section. Any farmer who does not receive a card by the middle of June should obtain one either from the school teacher in his district, from the Agricultural Department of his province or from the Dominion Bureau of Statistics at Ottawa.

It is the aim of the Dominion Bureau to secure ultimately an annual return from every individual farmer in the Dominion. The issue of trustworthy annual agricultural statistics is important for all classes of interests in Canada, but to none is it of greater importance than to farmers themselves who otherwise carry on their industry in the dark and are liable to be victimized by unscrupulous traders. It is impossible to prevent, were it desirable to do so, the issue of annual estimates of grain and meat production; and consequently it is to the interest of the rural community that statistics relating to their industry should be accurate and trustworthy and be put forth on independent and unbiased authority. It is confidently expected that as farmers become better acquainted with the system organized for their benefit and realize the practical value to themselves of accurate agricultural statistics there will be a continuous increase in the proportion of returns. Meanwhile, it should be remembered that whatever degree of error may attach to the figures issued is attributable to the estimate that has to be made from the actual returns. In fact, any imperfection of the system is due to the extent to which farmers, whether from apathy, negligence or mistaken prejudice, make default. In proportion as the number of returns is increased and the necessity for estimation is in consequence reduced will the risk of error be eliminated and the greater accuracy of the totals be established.

CROP REPORTS FROM OTHER COUNTRIES.

England and Wales.—The Board of Agriculture reports (April 1) that the wet weather and frosts, which prevailed during March, have everywhere hindered growth of the crops. Wheat is satisfactory on dry soils, particularly if sown early, but elsewhere it has suffered some damage, and its condition is hardly up to the average generally. The area under wheat appears to be less than last year by some 10 per cent. Winter oats and beans appear to have withstood the unfavourable weather better and they mostly present a more favourable appearance. Spring cultivation and sowing have been nearly at a standstill during the month, except on light and dry ground, where a certain amount was done. Work is consequently much in arrears—by a fortnight or more in most places. Scarcely any potatoes have been planted, except a few earlies here and there; and in many districts no preparation of the ground for this crop has yet been begun. Seeds are very often patchy and backward; a certain amount of damage appears to have been done and some fields are being reploughed: they are hardly so promising as a month ago. Lambing is now general all over the country, except in the hill districts. Reports are very uniform: ewes are in relatively poor condition; the fall of lambs is about up to the average, though poorer reports are to hand from a few neighbourhoods; and mortality, especially among lambs, is somewhat heavier than usual owing to the unfavourable weather. Skilled labour of all kinds is still scarce, and but little improvement can be noted during the month, although the demand has not been so heavy as is usual during March, owing to the weather preventing work in the fields.

Scotland.—The Board of Agriculture reports that the weather during the greater part of March was unusually severe, so that agricultural work suffered considerable interruption and there was practically no growth. Reports are unanimous to the effect that wheat suffered more or less damage during the month, and late-sown fields have not yet germinated. The acreage of winter-sown wheat is expected to show a decrease of 5,000 acres; practically no barley or oats have yet been sown, which is in striking contrast to the position at this time last year.

India.—The second wheat forecast of the Indian Department of Statistics, dated March 13, 1919, places the area sown to wheat for the season of 1918-19 at 23,733,000 acres, as compared with 35,497,000 acres, the finally revised area of 1917-18, a decrease of 11,764,000 acres, or 33 p.c. The condition of the crop at the date of the report was generally fair to good, except in the unirrigated tracts and in Bombay and Sind, where it was below average. The unirrigated area under wheat is, on the average of the five years ended 1916-17, about 48 p.c. of the total wheat area in the Punjab, 45 p.c. in the United provinces and 71 p.c. in the Northwest Frontier province.

The second forecast of winter oil seeds (rape, mustard and flaxseed) places the area under rape and mustard at 2,939,000 acres, this being 994,000, or 25 p.c. less than the revised figure at the corresponding date last year. The total area under flaxseed is reported to be 1,841,000 acres, as compared with 2,932,000 acres at the corresponding date last year, a decrease of 1,091,000 acres, or 37 p.c.

Italy.—Broomhall's Corn Trade News of April 23 reports that the area sown to winter wheat in Italy is estimated at 11,355,000 acres, as compared with 10,868,000 acres last year, when the acreage in the territory occupied by the Austrians was not reckoned. The condition of the crop is average.

Germany.—Publication of the official reports of crop production in Germany which was intermitted during the war, has now been resumed, and the following are reported in Broomhall's Corn Trade News of April 23 as the yields of the crops named for 1918: Wheat 90,312,000 bushels; rye 294,304,000 bushels; barley 99,576,000 bushels; oats 271,688,000 bushels; potatoes 1,100,166,000 bushels; and sugar beets 368,932,000 bushels. In 1913, the year before the war, the production was: Wheat 161,744,000 bushels; rye 444,752,000 bushels; barley 157,168,000 bushels; oats 551,752,000 bushels; potatoes 1,973,216,000 bushels; sugar beets 630,037,000 bushels (1914). It will be noticed that the production of 1918 is very greatly below that of 1913.

United States.—The Crop Reporting Board of the United States Department of Agriculture reported (April 9) that the average condition of winter wheat on April 1 was 99.8 p.c. of a normal, against 78.6 on April 1, 1918, 63.4 on April 1, 1917, and 82.3, the average condition for the past 10 years on April 1. There was an increase in condition from December 1, 1918, to April 1, 1919, of 1.2 point, as compared with an average decline in the past 10 years of 5.9 points between those dates. Upon the assumption of average abandonment of acreage and average influences on the crop to harvest, condition on April 1 forecasts a production of about 837,000,000 bushels, which compares with 558,449,000 bushels, the estimated production in 1918, and 412,901,000 bushels in 1917. The average condition of rye on April 1 was 90.6 p.c. of a normal, against 85.8 on April 1, 1918, 86 on April 1, 1917, and 88.6, the average condition for the past 10 years on April 1. The condition of rye forecasts a production of approximately 101,000,000 bushels; last year's estimated production was 89,103,000 bushels; the 1917 crop 62,933,000 and the average of the preceding five years 44,547,000 bushels.

THE WEATHER DURING MARCH.

The Dominion Meteorological Office reports that the temperature was below average from the British Columbia coast to central Manitoba, thence eastward to the Maritime Provinces it was above average, except in the upper Ottawa Valley and the Lake Temiskaming regions, where it was just about normal. The greatest positive departures, amounting to about 5°, occurred in some sections of

central and western Ontario, and the greatest negative departures, about 7°, in northern Alberta. Precipitation was somewhat above average in British Columbia, southeastern Saskatchewan, Manitoba, Ontario and the greater portion of Quebec, while in Alberta and western Saskatchewan it was slightly below. In the Maritime Provinces it was above in some districts and below in others. In the western provinces it consisted almost entirely of snow; while in Ontario it was mostly rain. There were two heavy snowfalls in Quebec, on the 9th and 28th-29th. At the close of the month the ground was bare of snow in central and western Ontario, as it was also in Alberta, western Saskatchewan and Nova Scotia. There was a thin covering of two to six inches in eastern Ontario and Manitoba, while in the woods of northern Ontario and over a large part of Quebec it was from six to twelve inches deep, and in the Lake St. John district and toward the Gulf of St. Lawrence it was twenty eight to thirty inches.

PRICES OF AGRICULTURAL PRODUCE, 1918-19.

1. Weekly Range of Cash Prices per bushel of Canadian Grain at Winnipeg and Fort William, 1919.

Grain and Grade.	April 5.		April 12.		April 19.		April 26.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—								
No. 1 Nor.....	2 24½	—	2 24½	—	2 24½	—	2 24½	—
No. 2 Nor.....	2 21½	—	2 21½	—	2 21½	—	2 21½	—
No. 3 Nor.....	2 17½	—	2 17½	—	2 17½	—	2 17½	—
No. 4.....	2 11½	—	2 11½	—	2 11½	—	2 11½	—
No. 5.....	1 99½	—	1 99½	—	1 99½	—	1 99½	—
No. 6.....	1 90½	—	1 90½	—	1 90½	—	1 90½	—
Feed.....	1 70	—	1 70	—	1 75	1 75½	1 76	—1 77
Oats—								
No. 2 C.W.....	0 69½—0 72½		0 71—0 72½		0 71—0 73½		0 74½—0 76½	
No. 3 C.W.....	0 66½—0 69½		0 67½—0 69½		0 67½—0 70½		0 71½—0 73½	
No. 1 Feed Ex.....	0 66½—0 69½		0 67½—0 69½		0 68—0 70½		0 71½—0 73½	
No. 1 Feed.....	0 64½—0 67½		0 65½—0 67½		0 66—0 68½		0 69½—0 71½	
No. 2 Feed.....	0 61½—0 64½		0 62½—0 64½		0 62½—0 65½		0 66½—0 68½	
Barley—								
No. 3 C.W.....	0 97½—1 05		1 00—1 03½		0 99½—1 04½		1 04½—1 10½	
No. 4 C.W.....	0 93½—0 99½		0 95—0 98½		0 94½—0 99½		0 99½—1 04½	
Rejected.....	0 87½—0 97		0 88½—0 92½		0 88½—0 92½		0 93½—0 97½	
Feed.....	0 86½—0 96		0 88½—0 91½		0 88½—0 92½		0 93½—0 97½	
Flax—								
No. 1 N.W.C.....	3 55½—3 60½		3 65½—3 71½		3 66—3 73		3 77½—4 02	
No. 2 C.W.....	3 46½—3 51½		3 56½—3 62½		3 58½—3 65		3 69½—3 95	
No. 3 C.W.....	3 30½—3 35½		3 40½—3 46½		3 43½—3 50		3 54½—3 70½	

II. Monthly Range of Prices per bushel of Grain at Selected Markets in the United States, 1918-19.

(From the Monthly Crop Report of the U.S. Dept. of Agriculture.)

Grade and Market.	December.		January.		February.		March.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat, Red Winter, No. 2—								
St. Louis.....	2 25½	—2 48½	2 36	—2 55	2 35	—2 43	2 36½	—2 63
Chicago.....	2 26½	—2 42	2 23	—2 32	2 23	—2 36	2 35½	—
New York (f.o.b. afloat).....	2 38	—	2 38	—	2 37	—2 38	2 38	—
Corn, No. 2 mixed—								
St. Louis.....	1 45	—1 56	1 56	—	—	—	1 57	—1 58
Corn, No. 2—								
St. Louis.....	1 35	—1 55	1 22	—1 62	1 22	—1 38	1 31½	—1 64
Oats, No. 2—								
St. Louis.....	0 71	—0 76	0 56	—0 75	0 59	—0 63½	0 61½	—0 69½
Chicago.....	0 68	—0 74½	0 54	—0 76½	0 55½	—0 64	0 58½	—0 67½
Rye No. 2—								
Chicago.....	1 54	—1 64	1 57	—1 65	1 45	—1 47	1 45	—1 76½

III. Range of Prices of Imported Grain and Flour at British Markets, 1919.

Mark Lane.		Mar. 3-31.	Liverpool.		Mar. 4-25.
		\$ c. \$ c.			\$ c.
Wheat—			Wheat—		
Canadian No. 1.....	2 49½	—	Nor. Man. No. 1.....		2 52½
American Spring.....	2 49½	—	“ No. 2.....		2 52½
“ Best Winter.....	2 51	—	“ No. 4.....		2 52½
“ Hard Winter.....	2 51	—	Red Winter No. 1.....		2 52½
“ Red Winter.....	2 49	—	Spl. Red Winter, new.....		2 52½
Californian.....	2 49	—	Australian.....		2 52½
Australian.....	2 53½	—			
Indian.....	2 53½	—			
Argentine.....	2 49½	—			
Oats—					
Canadian.....	1 62½	—1 65½			
American.....	1 42½	—1 44½			
Argentine.....	1 62½	—1 65½			
Flour—					
Canadian Spring.....	11 25	—			
American Spring.....	11 25	—			
“ Winter.....	11 25	—			
Australian.....	11 25	—			

IV. Average Prices of British-Grown Grain, 1919.

(From the "London Gazette" as published pursuant to s. 8 of the Corn Returns Act, 1882.)

Week ended	Wheat.		Barley.		Oats.	
	Per quarter.	Per bushel.	Per quarter.	Per bushel.	Per quarter.	Per bushel.
	s. d.	\$ c.	s. d.	\$ c.	s. d.	\$ c.
March 1.....	72 7	2.208	62 7	1.827	48 8	1.289
“ 8.....	72 6	2.205	62 7	1.827	48 6	1.285
“ 15.....	72 5	2.203	62 5	1.823	46 8	1.236
“ 22.....	72 7	2.208	62 1	1.813	46 4	1.227
“ 29.....	72 7	2.208	62 8	1.830	46 11	1.243
Average.....	72 6	2.205	62 6	1.824	47 5	1.253

PUBLICATIONS

OF THE

Department of Trade and Commerce

- ANNUAL REPORT OF THE DEPUTY MINISTER.
- MAIL SUBSIDIES AND STEAMSHIP SUBVENTIONS (Annual).
- BOARD OF GRAIN COMMISSIONERS FOR CANADA (Annual).
- RULES AND REGULATIONS OF THE BOARD OF GRAIN COMMISSIONERS (Annual).
- LIST OF LICENSED ELEVATORS, ETC.
- GRAIN INSPECTION IN CANADA, (1914).
- WEEKLY BULLETIN, containing Reports of Trade Commissioners and other Commercial Information.
- PATENT OFFICE RECORD (WEEKLY).
- RULES AND FORMS OF THE CANADIAN PATENT OFFICE.
- CANADA AND THE BRITISH WEST INDIES (1915).
- CANADA THE COUNTRY OF THE TWENTIETH CENTURY (1915) 75c., \$1.00.
- HANDBOOK FOR EXPORT TO SOUTH AMERICA (1915).
- TRADE WITH CHINA AND JAPAN (1914).
- REVIEW OF COMMERCIAL INTELLIGENCE SERVICE (1916).
- RUSSIAN TRADE (1916).
- DIRECTORY OF RUSSIAN IMPORTERS (1915).
- THE GERMAN WAR AND ITS RELATION TO CANADIAN TRADE (1914).
- TOY MAKING IN CANADA (1916).
- THE TIMBER IMPORT TRADE OF AUSTRALIA (1917).
- FOOD INSPECTION BULLETINS.
- TRIAL SHIPMENT OF WHEAT, from Vancouver via the Panama Canal to the United Kingdom.
- GAS AND ELECTRICITY (Annual).
- WEIGHTS AND MEASURES (Annual).

For List of Publications of the Dominion Bureau of Statistics, see page iv of cover.

PUBLICATIONS

OF THE

DOMINION BUREAU OF STATISTICS.

THE CANADA YEAR BOOK, 1918, with Map of Canada and Newfoundland, a Statistical Summary of the Progress of Canada, Frontispiece and numerous other illustrations. (Jubilee Volume). pp. 1-xvii, 1-686.

Contents: I The Story of Confederation, by Sir JOSEPH POPE, K.C.M.G., C.V.O. I.S.O., Under Secretary of State for External Affairs, Ottawa, with 2 illustrations; II Chronological History of Canada, 1497-1918; III Fifty years of Canadian Progress, 1867 to 1917, by ERNEST H. GODFREY, F.S.S., Editor, Dominion Bureau of Statistics, Ottawa; IV Physical Characteristics of Canada, including Geographical Features; Economic Geology in Canada, 1918, by WYATT MALCOLM, Department of Mines, Ottawa; V Area and Population; VI Education; VII Climate and Meteorology, including The Climate of Canada since Confederation, by Sir FREDERIC STUPART, Director, Dominion Meteorological Service, Toronto; VIII Production: IX Trade and Commerce; X Transportation and Communications; XI Labour; XII Finance; XIII Administration; XIV Legislation in 1917 and 1918 and Principal Events of the Year 1918; XV Extracts from the Canada Gazette, 1917 and 1918.

THE CANADA YEAR BOOK. Second Series 1905-1917. [1910, 1913 and 1916-17, out of print.]

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. Nos. 1 to XIX.

REPORT OF THE FIFTH CENSUS OF CANADA, 1911.

Vol. I, 1912. Areas and Population by Provinces, Districts and Subdistricts with introduction, Tables I to XV, pp. i-viii, 1-623. [Out of print.]

Vol. II, 1913. Religions, Origins, Birthplace, Citizenship, Literacy and Infirmities by Provinces, Districts and Subdistricts, with Introduction. Tables I-XLVI, pp. i-iv, 1-634.

Vol. III, 1913. Manufactures for 1910 as enumerated in June 1911, with Introduction. Table I-XX, pp. i-xvi, 1-432. [Out of print.]

Vol. IV, 1914. Agriculture, with Introduction. Tables 1-90; I-XXXV, pp. i-xcv, 1-423. Diagrams, 5 pp. [Out of print.]

Vol. V, 1915. Forest, Fishery, Fur and Mineral Production, with Introduction. Tables 1-51; I-XXVI, pp. i-l, 1-171.

Vol. VI, 1916. Occupations of the People, with Introduction. Tables 1-25; I-VI, i-xxi, 1-469. [Out of print.]

REPORT OF THE CENSUS OF POPULATION AND AGRICULTURE OF THE PRAIRIE PROVINCES, 1916. January 12, 1918. Tables 1-54; I-XXVI, pp. i-lxiv, 1-356.

SPECIAL REPORT ON THE FOREIGN-BORN POPULATION. Abstracted from the Records of the Fifth Census of Canada, June 1911. 23 tables. 62 pp. 1915.

REPORT OF THE POSTAL CENSUS OF MANUFACTURES, 1916. pp. i-xi; 1-263, 1917.

REPORT ON THE PRODUCTION OF CREAMERIES AND CHEESE FACTORIES, 1915 and 1916, pp. 1-24, 1917. [Out of print.]

REPORT ON THE CENSUS OF INDUSTRY, 1917. Part I. (AGRICULTURAL STATISTICS); Part II (DAIRY FACTORIES), in the press; Part III. (FISHERY STATISTICS); Part IV, Section 4 (PULP AND PAPER). Other Parts in preparation.

EXTERNAL TRADE: ANNUAL REPORT OF THE TRADE OF CANADA; MONTHLY REPORT OF THE TRADE OF CANADA.

INTERNAL TRADE: ANNUAL REPORT ON THE GRAIN TRADE OF CANADA; ANNUAL REPORT ON THE COAL TRADE OF CANADA; MONTHLY PRODUCE BULLETINS, showing stocks in warehouse, in transit, etc.

CRIMINAL STATISTICS. Annual Report for Year ended September 30, 1917. pp. i-li, 1-270.

CENSUS AND STATISTICS MONTHLY, Vols. 1-10, 1908-1916; Vol. 10, Nos. 101-103, 1917. MONTHLY BULLETIN OF AGRICULTURAL STATISTICS, Vols. 10 to 12, Nos. 104-128, 1917-19.

REPORT OF CONFERENCE ON VITAL STATISTICS, June 19-20, 1918, pp. 1-48, 1918.

THE BEET SUGAR INDUSTRY, Bulletin IX, with 3 illustrations, pp. 1-75, 1909.

For list of Publications of the Department of Trade and Commerce, see page iii of cover.



VOL. 12

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OF

AGRICULTURAL STATISTICS

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Printer to the King's Most Excellent Majesty

1919

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MONTHLY BULLETIN OF AGRICULTURAL STATISTICS

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DOMINION STATISTICIAN: R. H. COATS, B.A., F.S.S. EDITOR: ERNEST H. GODFREY, F.S.S.
DOMINION BUREAU OF STATISTICS, OTTAWA, CANADA.

FIELD CROPS OF CANADA.

Report for the month ended April 30, 1919.

The Dominion Bureau of Statistics issued to-day the first crop report of the season of 1919, dealing with the winter-killing of fall sown wheat, the condition of fall wheat and hay and clover meadows and the progress of spring seeding, the report being compiled from the returns of crop correspondents from all parts of Canada on April 30.

WINTER-KILLING AND CONDITION OF FALL WHEAT.

Owing to the exceptionally mild winter, the proportion of fall sown wheat that was killed is very small, amounting in fact for the Dominion only to 5 p.c., representing 42,250 acres out of the 840,000 acres estimated as having been sown last fall. Only in the winter of 1915-16 was the proportion so low, the figure then for the Dominion being also 5 p.c. The proportion this year is in marked contrast to the severe winter of 1917-18, when over half of the area sown to fall wheat was destroyed. In Ontario, where the bulk of winter wheat is grown, the proportion destroyed is 5 p.c., or 39,000 acres, in Alberta it is 7 p.c., or 3,100 acres, and in British Columbia it is 2 p.c., or 150 acres. The area therefore under fall wheat in Canada which remains for this year's crop is 797,750 acres, as compared with the harvested area of 416,615 acres in 1918. The total for 1919 comprises 744,000 acres in Ontario, 6,100 acres in Manitoba, 40,600 acres in Alberta and 7,050 acres in British Columbia. The average condition of fall wheat at the end of April, weighted in proportion to acreage, is for the Dominion 103, or 3 p.c. above the average condition at the same date for the eight years 1911-1918. In 1918 the corresponding figure was 76, or 24 p.c. below average and in 1917 it was 88, or 12 p.c. below average. The condition in Ontario and in Manitoba on April 30, 1919, was 103; in Alberta it was 101 and in British Columbia 100, or exactly equal to the average.

HAY AND CLOVER MEADOWS.

About 6 p.c. of the area under hay and clover is reported as winter-killed, as compared with 11 p.c. last year and 9 p.c. in 1917. The condition of hay and clover meadows on April 30 last is reported as 99, or 1 p.c. below the average of the eight years 1911-18. By provinces, the condition is as follows: Prince Edward Island 102, Nova Scotia, New Brunswick and Quebec 101, Ontario 98, Manitoba 99, Saskatchewan 94, Alberta 95 and British Columbia 100.

PROGRESS OF SPRING SEEDING.

Practically no progress with spring seeding had been made by the end of April in the Maritime provinces and in Quebec. In Ontario very little had been done, and the spring is late. Snow-storms during the last week of April threw things still more backward and in many parts left the land too wet for seeding. In the west, the spring opened up late, but by the end of April good progress was being made, and a good seedbed was, as a rule, being obtained. Numerically, about 60 p.c. of spring wheat had been sown by April 30 in the five provinces of Ontario, Manitoba, Saskatchewan, Alberta and British Columbia, as compared with 66 p.c. last year, including Quebec. In Ontario the proportion was 29 p.c. as compared with 68 p.c. last year: in Manitoba 40 p.c. against 94 p.c. in Saskatchewan 62 p.c. against 85 p.c., in Alberta 77 p.c. against 92 p.c. and in British Columbia 45 p.c. against 66 p.c. Of oats, the percentage reported as sown is 9 p.c. for the five provinces, and of barley it is 5 p.c. Of the total seeding, the proportion sown at the end of April was 30 p.c., or nearly one-third.

Dominion Bureau of Statistics,
Ottawa, May 12, 1919.

ERNEST H. GODFREY,
Editor.

I. Area sown to Fall Wheat, 1918, and Areas Winter-killed as estimated on April 30, 1919.

Provinces.	Area sown, 1918.	Area winter-killed.		Area to be harvested.
		acres.	p.c.	
Ontario.....	783,000	39,000	5	744,000
Manitoba.....	6,100	—	—	6,100
Alberta.....	43,700	3,100	7	40,600
British Columbia.....	7,200	150	2	7,050
Total.....	840,000	42,250	5	797,750

II. Comparative Statement of the Winter-Killing of Fall Wheat 1910-19.

Provinces.	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Ontario.....	6	22	29	18	19	7	6	25	56	5
Alberta.....	22	5	39	44	16	6	5	15	10	7
Canada.....	—	21	32	26	18	7	5	24	52	5

III. Progress of Spring Seeding, 1912-19.

Crops and Provinces.	April 30, 1912	April 30, 1913	May 6, 1914	April 30, 1915	April 30, 1916	April 30, 1917	April 30, 1918	April 30, 1919
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Spring wheat—								
Quebec.....	3	12	5	55	2	1	10	—
Ontario.....	13	22	24	73	4	28	68	29
Manitoba.....	50	57	57	93	26	13	94	40
Saskatchewan.....	72	65	79	94	36	5	85	62
Alberta.....	61	74	88	91	80	27	92	77
British Columbia..	—	—	—	89	66	20	66	45
Six provinces....	39	43	48	94	27	13	60	60
Oats—								
Quebec.....	4	11	4	38	1	1	6	—
Ontario.....	14	41	44	63	4	33	50	14
Manitoba.....	17	36	6	30	1	1	20	3
Saskatchewan.....	17	8	14	29	3	—	10	4
Alberta.....	30	25	39	50	24	3	28	16
British Columbia..	—	—	—	73	56	11	54	29
Six provinces....	14	21	23	45	8	12	24	9
Barley—								
Quebec.....	2	7	4	45	$\frac{1}{2}$	1	4	—
Ontario.....	12	36	41	63	3	26	49	12
Manitoba.....	—	$\frac{1}{2}$	1	8	—	—	7	5
Saskatchewan.....	23	1	3	13	$\frac{1}{2}$	—	7	1
Alberta.....	26	11	17	28	6	1	15	4
British Columbia..	—	—	—	67	23	6	31	9
Six provinces....	10	14	16	38	3	9	20	5
Total seeding—								
Quebec.....	5	12	6	41	2	1	7	—
Ontario.....	15	40	41	63	6	30	50	17
Manitoba.....	37	32	33	63	15	10	53	22
Saskatchewan.....	49	41	49	70	22	4	58	35
Alberta.....	52	43	51	67	46	16	61	43
British Columbia..	—	—	—	77	58	24	63	24
Six provinces....	28	35	37	63	18	14	44	30

IV. Condition of Hay and Clover Meadows, 1912-19.

NOTE—100=Average of eight years 1911-18.

Provinces.	April 30, 1912	April 30, 1913	May 6, 1914	April 30, 1915	April 30, 1916	April 30, 1917	April 30, 1918	April 30, 1919
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Canada.....	86	103	100	105	106	99	97	99
Prince Edward Is- land.....	83	102	108	108	105	98	105	102
Nova Scotia.....	100	105	93	104	100	90	105	101
New Brunswick...	88	98	100	99	101	103	102	101
Quebec.....	60	102	100	107	107	112	102	101
Ontario.....	94	104	99	107	111	96	92	98
Manitoba.....	101	107	107	102	105	100	80	99
Saskatchewan.....	98	101	104	93	99	102	102	94
Alberta.....	102	100	99	100	101	100	96	95
British Columbia..	104	102	102	102	100	94	99	100

V. Condition of Fall Wheat on April 30, 1912-19.

NOTE.—100=Average of eight years 1911-18.

Provinces.	1912	1913	1914	1915	1916	1917	1918	1919
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Ontario.....	92	108	105	120	116	87	68	103
Manitoba.....	—	—	—	—	—	92	107	103
Alberta.....	92	90	104	99	93	105	111	101
British Columbia.....	—	—	—	—	—	97	102	100
Canada.....	94	105	106	117	110	88	76	103

REPORTS FROM THE PROVINCES.

Maritime Provinces.—Although the winter was mild, at the end of April the frost was not yet entirely out of the ground, and dull cold, wet weather prevailed. Scattered snowfalls, quite heavy in some places, were reported on April 30. No seeding would be done until about the middle of May. Meadows, where growth had commenced, appeared to have escaped winter-killing, but in most districts it was rather too early to judge.

Quebec.—Owing to the abundance of rainfall during April, very little sowing had been done. Fortunately little damage has been done to the meadows by frost; therefore they are in a good condition, though in places the earth is frozen as yet. On the whole the weather is most unfavourable for spring work.

Ontario.—Fall wheat everywhere wintered well, only 5 p.c. of the area being reported as winter-killed. At the end of April a vigorous growth was showing. Meadows, too, came through with little loss, and the condition was reported as good except in the case of some new meadows which had suffered from the drought of last season. April was cold and wet; so that seeding operations were retarded on all heavy land. On light, sandy soils, however, good progress was being made, except in the northern and eastern districts, where practically nothing was sown. Altogether less than one-third of the area intended for spring wheat was sown, and from some reports it appeared that owing to the lateness of the season the amount of spring wheat might be reduced.

Manitoba.—The season for work on the land opened late, but by the end of the month the ground was sufficiently dried out, and wheat seeding was in full swing, with about 40 p.c. of the sowing done. There was a fair amount of moisture in the ground, but meadows were slow in growth and the sloughs were drying up rapidly. Owing to the high cost of production and the uncertainty of prices in the autumn, it is feared that reduced acreages may result.

Saskatchewan.—All spring work was delayed owing to the backward season. The ground was in good condition for seeding, and

during the last two weeks the work progressed quickly, although in some districts frosty nights prevented ploughing before noon. In northern Saskatchewan high winds prevailed, and rain was badly needed. All sloughs and wells are low for this time of year. Districts to the south have had sufficient rain. Hay fields looked promising, and with warm weather rapid growth was expected.

Alberta.—Although work on the land started late, the soil is in good condition, and wheat seeding is well advanced. There have been high winds in some localities, drying the surface soil, and rain is needed. However there is still plenty of moisture in the ground. It is early to report on meadows as they are just showing green. Fall wheat wintered well. In some districts less wheat is being sown, owing to uncertainty of prices. Olds district reports a larger acreage sown and new land broken. Many farmers are unable to get help, while others are unwilling to pay the high wages demanded. On the whole, conditions are good.

British Columbia.—The spring is later than usual, the early part of April being too cool for farm work, which was not general until the last two weeks. There is plenty of moisture, and conditions generally are favourable. Clover, alfalfa and fall wheat are in excellent condition, and fruit crops look very promising.

CROP REPORTS OF PROVINCIAL GOVERNMENTS.

Ontario.—The Ontario Department of Agriculture reported that in consequence of the rainy weather great difficulty had attended the seeding of grain crops this spring. On May 12 it was reported that only a very small acreage of field crops was got in during the week, as it was impossible for some to get upon the soaked ground. Generally speaking, probably not more than half of the intended spring field work had as yet been done. On May 19 reports stated that spring seeding had been unusually difficult this season. Only a small portion of the acreage intended to be sown was put in previous to the long stretch of more or less rainy weather of the past five weeks. The opinion was freely expressed that there would be less oats, barley and spring wheat than were put in last year and more corn, buckwheat and millet would be raised, and perhaps more peas. On June 2 the Department reported that the hot, sunny weather of the past week helped to dry up the heavily soaked land, and there had been a rush of sowing of all kinds of delayed spring crops. The intensity of the heat, however, following frequent heavy rains, had the effect of baking the surface of clay soils, which was stunting the growth of roots and other seeding showing up. Buckwheat and millet would be largely sown on account of the lateness of the season for some of the other spring crops. In Essex and Kent an extended acreage of tobacco was predicted. There would also be more corn and less beans generally sown. Fall wheat continued to look well, and clover was in fair condition. Alfalfa was making very rapid growth and looked better than usual. Fruit was never more generally promising.

Saskatchewan.—The following telegram from the Saskatchewan Department of Agriculture was received on May 27: "Seeding practically completed; high winds have done very little damage. Hardly any re-seeding necessary. Crops in excellent condition and making rapid growth. Sufficient moisture at present, although rain would be beneficial, especially in north and northwestern parts of province where very little rain has fallen this year. All live stock is reported in good condition. Some cattle reported lost in bush fires in northern part of province."

DATES OF SEEDING AND GERMINATION OF SPRING WHEAT, 1919.

Under arrangements made between the Dominion Bureau of Statistics and the Dominion Meteorological Service, crop correspondents were requested to record in their April schedule the date of the first general sowing of spring wheat and the date of its appearance above ground. In the following statement (Table I) the replies received are tabulated to show (1) the total number of records of seeding; (2) the earliest dates when wheat seeding became general in Ontario, the Prairie Provinces and British Columbia; (3) the number of replies recording that sowing was general for each of the four weeks of April; (4) the number of replies recording the first appearance of the crop above ground for each of the four weeks of April; (5) the earliest dates of the appearance of the crop above ground; and (6) the average number of days required for visible germination (i.e., days elapsed from sowing to appearance of the crop above ground). No records came from the Maritime provinces and Quebec.

I. Dates of Seeding and Appearance above Ground of Spring Wheat, 1919.

A.—DATES OF SEEDING.

Province.	Total No. of Replies.	Earliest Date when Seeding was General.	Number of Records that Seeding was General.				
			March.	April 1-7.	April 8-14.	April 15-21.	April 22-30.
Ontario.....	365	March 14.....	22 ¹	19	14	106	204
Manitoba.....	250	April 14.....	—	—	2	85	163
Saskatchewan.....	159	April 1.....	—	3	21	85	50
Alberta.....	78	April 1.....	—	11	19	38	10
British Columbia.....	14	April 1.....	—	2	5	4	3

¹Including two in second week, and three in third week.

B.—DATES OF APPEARANCE ABOVE GROUND.

Province.	Total No. of Replies.	Earliest Date of appearance above ground.	Number of Records of appearance above ground.				Average No. of days from Seeding to appearance above Ground.
			April 1-7.	April 8-14.	April 15-21.	April 22-30.	
Ontario.....	55	April 1.....	3	9	15	28	15
Manitoba.....	14	" 26.....	—	—	—	14	9
Saskatchewan.....	31	" 20.....	—	—	2	29	12
Alberta.....	35	" 10.....	—	1	7	27	12
British Columbia.....	9	" 14.....	—	1	4	4	8

II. Dates of seeding and Appearance above Ground of Spring Wheat, 1918 and 1919.

A.—DATES OF SEEDING.

Items.	Ont.		Man.		Sask.		Alberta.		B. C.	
	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.
No. of records.....	183	365	130	250	209	159	115	78	17	14
Earliest date seeding general.....	Mar. 27	Mar. 14	Mar. 21	April 14	Mar. 20	April 1	Mar. 27	April 1	April 6	April 1
No. of records seeding general:—										
April 1-7.....	14	41 ¹	46	—	14	3	16	11	3	2
" 8-14.....	33	14	61	2	98	21	54	19	5	5
" 15-21.....	76	106	23	85	49	85	40	38	7	4
" 22-30.....	60	204	—	163	18	50	5	10	2	3

B.—DATES OF APPEARANCE ABOVE GROUND.

No. of records.....	49	55	81	14	110	31	71	35	13	9
Earliest date of appearance above ground....	April 13	April 1	April 1	April 26	April 5	April 20	April 12	April 10	April 16	April 14
No. of records of appearance above ground:—										
April 1-7.....	—	3	1	—	2	—	—	—	—	—
" 8-14.....	1	9	4	—	2	—	1	1	—	1
" 15-21.....	9	15	31	—	24	2	18	7	5	4
" 22-30.....	39	28	45	14	82	29	52	27	8	4
Average No. of days from seeding to appearance above ground	13-16	15	15-16	9	14-16	12	14-15	12	11	8

¹ Including 22 in March (2 in second and 3 in third week).

The records in the foregoing statement may be compared with those obtained last year (M.B., May 1918, p. 136), as in Table II. In this table however the number of records in Ontario and Manitoba is more in 1919 than in 1918 because of an increase in the number of crop correspondents. It will be seen that in Ontario the earliest date when seeding was reported general was, for 1919, March 14, as compared with March 27 in 1918, and the records for 1919 include 22 in March, two of which were in the second and three in the third week of that month. In the Prairie Provinces the seeding is shown to be decidedly later this year than last, but the average period of germination was less by about seven days in Manitoba and by from two to four days in Saskatchewan and Alberta. In Quebec there are no records for April this year, but last year 66 records showed seeding to be general during the last week of April and 12 during the third week of April. The earliest date for the appearance of the crops above ground was April 1 in Ontario as compared with April 13 in 1918; in Manitoba the earliest date was April 26 in 1919 as compared

with April 1 in 1918; in Saskatchewan the respective dates were April 20 (1919) and April 5 (1918) in Alberta April 10 (1919) and April 12 (1918) and in British Columbia April 8 (1919) and April 11 (1918).

DOMINION EXPERIMENTAL FARMS AND STATIONS.

Central Farm, Ottawa.—The weather during April has been cool, with less sunshine and more precipitation than usual—the highest temperature recorded being 69, the lowest 3, and the mean temperature 38·68, compared with a maximum of 75, a minimum of 17·4 and a mean of 42·91 for April, 1918. The precipitation totals 3·28 inches, made up of 2·83 inches of rain and 4·50 inches of snow, recorded on fifteen days—compared with 1·41 inch, consisting of 1·11 inch of rain and 3 inches of snow, recorded on nine days, for the corresponding period a year ago. The sunshine averages 5·20 hours a day, as against 8·13 hours a day for this time last year and an average of 6·94 hours a day for April from 1910 to 1918.

The little ploughing that remained to be done this spring was attended to during the month. The season is quite backward, and the only seeding that has been accomplished up to the 20th has consisted of some peas and oats for green feed. The sowing of the grain crops is not likely to be finished until toward the end of the second week of May, while last year practically all the grain was got in during April.

Charlottetown, P.E.I.—R. D. L. Bligh, Officer in Charge, reports: “The temperatures recorded during April average about normal. The first ten days were fairly fine, with little precipitation. This was followed by unsettled weather, precipitation falling on seven days from the 10th to the 18th. The snowfall aggregates 14 inches, the heaviest storms occurring on the 17th, 23rd and 31st, when 4, 3½ and 3 inches, respectively, fell. Precipitation has been recorded on sixteen days, totalling 4·09 inches. The month has been quite dark, with only 100·2 hours of sunshine, eleven days being without sunshine. Although it has been cold and backward, the fields were dry, and ploughing became general in many districts. The soil on the Station farm, with the exception of some early land which was prepared and planted to onions, has been unfit to cultivate. The potato and oat market has improved considerably. Feed oats are selling at from 80 to 85 cents per bushel, while potatoes are quoted at \$1.75 per 90 lb. bag, f.o.b. the cars. Young pigs are also in keen demand, and are selling at \$17 per pair on the local markets.”

Kentville, N.S.—W. S. Blair, Superintendent, reports:—“The temperatures recorded during April have averaged about normal, the mean being 40·43 as compared with 39·25, the average mean for the corresponding month during the five previous years. Rain has fallen on eighteen days and totals 3·27 inches, as compared with 2·90 inches, the average of the same period for the five previous years. There was a snowfall on the 26th, and again on the 30th, in

each case the snow melting as soon as it fell. The sunshine totals 118 hours, which is much below the April average of the five previous years, which is 150.7 hours. Because of continuous rain and dark weather, the ground is about as wet at the end as it was at the beginning of the month. On naturally drained or sandy lands, however, it has been possible to plough, and, as a result, much spring ploughing has been done. There has been very little seeding, and at the Station the first land was fit to work on the 24th. Clovers and grasses have come through the winter in excellent condition, and the prospects are that a good hay yield will result. The fruit trees are looking well, and prospects are that a large crop of all fruits will be obtained."

Nappan, N.S.—W. W. Baird, Superintendent, reports:—"The weather during April has been very unsettled, many snow flurries and light showers being recorded alternately during the month. While the fall of rain or snow at any one time has not been heavy, there has been light precipitation so continuously that conditions have been most disagreeable throughout the month, and the land has remained wet and cold and the spring is very backward. However, the frost came out of the ground quite rapidly after each snowfall and was pretty well gone by the 20th. The precipitation totals 3.26 inches, the sunshine aggregates 94.30 hours and the mean temperature is 38.65. The public highways have been in the worst condition imaginable, making transportation of farm produce to market, not only difficult, but expensive, and hindering traffic very materially. Market prices for all farm produce, and especially for butter, eggs, hay and beef, advanced very materially; butter ranging from 75 cents to \$1 per lb., eggs from 40 to 50 cents per dozen, and hay from \$25 to \$30 per ton, delivered. Pork, also, made a slight advance over the previous month, 23 cents per lb. being realized in many instances.

Fredericton, N.B.—W. W. Hubbard, Superintendent, reports:—"The temperatures recorded during April average about normal, the mean being 39.7, while the precipitation totals 2.21 inches and the sunshine 126 hours—compared with a forty-five year average of 39 for mean temperature, 2.8 inches for precipitation and 187 hours for sunshine. The ground has dried out earlier than in any year since the establishment of this Station; consequently work on the land has been possible well in advance of other years. Ploughing began on April 23; seed turnips were planted on the 28th; and the ground was ready for wheat seeding on the 30th. Grass and winter grains are making a start with not more than 10 p.c. of winter-killing. The swelling of buds on trees and shrubs is not more than normal, only willows and a few shrubs showing much swelling. Live stock is in average condition, except in some localities where there has been an abnormal scarcity of fodder. At the Experimental Station, roots have been scarce, while corn ensilage is of poor quality, largely due to immaturity and freezing of the crop last autumn, which has caused a very tough, fibrous condition of the silage, with, apparently, a low ratio of digestibility. Roads have dried up and

are in better condition, regardless of good road work or neglect, than for many years."

Ste. Anne de la Pocatière, Que.—Jos. Begin, Superintendent, reports:—"The weather during April has been cool and mild throughout, with no extreme temperatures. The highest temperature recorded is 50.4, the lowest 18.6 and the mean 32.9, whilst a year ago the highest was 65.4, the lowest 26.7 and the mean 38.2. The precipitation totals 4.94 inches, made up of 3.54 inches of rain and 14 inches of snow, rain or snow being recorded on seventeen different days; while, for the preceding April, the total precipitation was only 1.25 inch, made up entirely of rain. The bright sunshine figures out 4.27 hours a day, as compared with 7.88 hours a day in 1918. There was little or no frost in the ground under the snow. About the 24th, the last snow had disappeared entirely from open fields, but at the end of the month there is still over a foot of snow in the bush. No field work has yet been possible in this district, on account of frequent rains, and a certain time will elapse in May before any sowing will be possible. In this section, very little hay is available at any price and the delayed growth is causing great anxiety among farmers."

Cap Rouge, Que.—G. A. Langelier, Superintendent, reports:—"April has been colder, wetter and duller than the corresponding month during the last seven years, the figures being, respectively, 34.28 and 38.41 for mean temperature, 3.11 and 2.01 inches for precipitation, and 117.6 and 180.6 hours for sunshine. With hay selling at from \$35 to \$40 per ton, the live stock men who happen to be short of roughage will get a hard blow and some of them are feeling somewhat discouraged."

Lennoxville, Que.—J. A. McClary, Superintendent, reports:—"The weather throughout April has been dull and wet, with vegetation making very little start. The temperatures during the month range lower than usual, the highest being 68, the lowest 0, and the mean 37.43, compared with the extremes of 74 and 15 and a mean of 39.93 a year ago. The precipitation totals 2.68 inches, compared with 1.21 inch last year and 1.24 inch two years ago. The sunshine amounts to 103.9 hours compared with 195.5 hours in April, 1918. At the Station, ploughing commenced on the 19th, four days later than last year. No seeding has been done yet in this district."

Brandon, Man.—W. C. McKillican, Superintendent, reports:—"April has been changeable, warm and cold weather alternating at short intervals. The mean temperature of the month is about normal; but, on account of the cold spells, it has seemed cold and backward and farm operations have been somewhat delayed. During the first week of the month there occurred a rainfall of 1.35 inch in a day and a half, the heaviest on record for the first half of April. This added greatly to the store of moisture in the soil, but delayed farm work. The remainder of the month has been dry. Farm work was not general until after the 21st, but since that date it has gone ahead rapidly. On the Experimental Farm, the seeding of wheat has been completed, and most of the experimental plots have been sown."

Indian Head, Sask.—N. D. Mackenzie, Acting Superintendent, reports:—"April came in cool and cloudy, with considerable rain and sleet, which kept the land in a wet condition and prevented seeding during the early part of the month. Seeding commenced on the Experimental Farm on the 19th and was general throughout the district by the 24th.

Rosthern, Sask.—Wm. A. Munro, Superintendent, reports:—"April has been ideal for seeding operations, being warm and without rain, although for lack of moisture conditions for seed growth have not been satisfactory; and toward the end of the month, owing to high winds, there has been considerable soil drifting. The live stock on the Experimental Station has come through the winter in splendid shape. The forty-six steers purchased in November are finishing in good condition on a mixture of oat and barley chop and prairie hay. To this ration is added, in the case of half the steers, 10 lb. of roots per animal. The effect of this small quantity of roots shows very favourably on those steers to which they are being fed. A start in poultry has been made to the extent of building six colony houses and securing for hatching upwards of one thousand eggs of a good strain of Plymouth Rock."

Scott, Sask.—M. J. Tinline, Acting Superintendent, reports:—"For the most part, fine spring weather has prevailed during April. The snow melted rapidly during the early part of the month, and the ploughed fields were bare by the 7th. Seeding commenced on the 15th and was general by the 21st. The moisture from the snow soaked into the surface soil and furnished ample moisture for the germination of all early sown seed. Live stock has come through the winter in good condition, considering the shortage of feed. Sheep have thrived especially well and the lambs are unusually vigorous. An average of 1.6 live lamb per ewe is the record at the end of the month for the Station flock."

Lacombe, Alberta.—B. C. Milne, Assistant to Superintendent, reports:—"The weather throughout April has been favourable for crop production, in that a supply of much needed moisture was received throughout central Alberta. Work on the land was started during the first few days of the month in a few cases, but, owing to a snowfall, was not general until the 10th. Seeding was started at this Station on April 16th, the land being in excellent shape. A great deal of spring ploughing has been finished during the month, and all wheat seeding has been completed. An increase of 10 p.c. in area seeded to wheat is estimated. Not more than 30 p.c. of the oat crop has been seeded. Very little grain is up yet. The prospects for a good crop are splendid. Prices for live stock have been good during the month, as high as \$22.60 having been paid for select hogs off cars, Calgary. Owing to the scarcity of brood sows, and, in a number of cases, poor luck attending the farrowing of these, it would appear that the demand for hogs will continue to be strong."

Lethbridge, Alberta.—W. H. Fairfield, Superintendent, reports:—"April has been quite favourable for general farming operations in

southern Alberta. Work on the land was begun in the Lethbridge district on the 3rd, and seeding was general by the 12th. By the end of the month, the percentage of seeding varied, according to the locality, from 35 p.c. to 100 p.c. Speaking generally, 90 p.c. has been done. Some farmers have already started sowing oats and barley. The moisture situation is only fair, although this also varies with the locality; it may be said that there is enough for present needs, but no reserve to go on. The first sown grain is up. Heavy winds have been prevalent during the month, and in some districts soil-drifting has been serious. At the Station, the work has proceeded favourably during the month, although operations have been somewhat hampered through lack of help. Shortage of farm labour is a condition that prevails generally throughout this part of the province."

Invermere, B.C.—R. G. Newton, Acting Superintendent, reports:—"The first three weeks of April were cold, frosts being experienced nearly every night. The temperature rose considerably, however, during the last week, 74 being recorded on the 27th; and the mean temperature for the month is slightly above the average. The sunshine record, though lower than for 1918, exceeded the average of the four preceding years by 27 hours. The precipitation has been very light, only one shower, registering one quarter of an inch of rain, being recorded since March 17th. Owing to the large amount of preparation which was possible in the autumn, spring work at the Experimental Station has been well advanced. Ploughing commenced on the 7th, and the seeding of all grains in the cereal and rotation plots, which was started on the 17th, was completed on the 29th. An examination of the permanent crops shows that alfalfa and clover have all come through the winter in good condition. The horticultural work was well under way before the end of the month, the bulk of the vegetable seeds being sown. In the apiary, all the colonies show strength and have commenced bringing in honey."

Summerland, B.C.—R. H. Helmer, Superintendent, reports:—"The weather during April has been much warmer. High winds prevailed during the second week. Pruning and spraying are mostly finished. All fruit trees show signs of a heavy bloom, cherries in particular being very promising. In this district, hay is practically unobtainable and prices for what little there is available are very high. Live stock in the district has been turned out much earlier than usual and, on the whole, the animals have wintered better than usual. Farmers who are interested in seed growing have their seed crops in, and the acreage devoted to seed production has increased very materially as compared with last year."

Agassiz, B.C.—W. H. Hicks, in charge, reports:—"During April, rain has fallen on twenty different days, the precipitation totalling 6.26 inches. On the 23rd, a temperature of 76 was recorded, while on the 30th 71 was reached. With the exception of these two days, April has been rather cooler than normal. With such weather conditions, the spring is late and it has been difficult to get much work

done on the land. Early sown cereals have made fair growth. Hay, meadows and pastures have good crops on them, as very little winter-killing has occurred and the grasses and clovers have grown rapidly. The trees, shrubs and flowers are late. Grain seeding is about half completed in this district. At the close of the month, the young cattle have been turned to pasture and very satisfactory crops of spring pigs and lambs have arrived."

Sidney, Vancouver Island, B.C.—Lionel Stevenson, Superintendent, reports:—"Weather conditions during April have not been favourable to soil tillage and spring seeding. Fifty per cent of the spring sowing remains still to be done at the close of the month. Autumn-sown cereals have made splendid growth. Clovers and grasses have grown well and promise a heavy hay yield. The wet weather has been very favourable to the small fruit and orchard men, and the fruit crop indications point to large yields. Many new strawberry and logan berry plantations have been established in the district. Prices for small fruits to be delivered under contract are very high. The live stock of the district is in good condition. Meat, poultry and milk products have been relatively high in price during the month."

Meteorological Record for April, 1919.

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of April are given in the following table:—

Experimental Farm or Station at—	Degrees of Temperature F.			Precipitation in inches.	Hours of Sunshine.	
	High-est.	Low-est.	Mean.		Possible.	Actual.
Ottawa, Ont.....	69.0	3.0	38.68	3.28	406	156.0
Charlottetown, P.E.I.....	55.0	23.0	37.96	4.09	408	100.2
Kentville, N.S.....	61.0	22.0	40.43	3.28	405	118.0
Nappan, N.S.....	60.0	20.0	38.65	3.26	407	94.3
Fredericton, N.B.....	64.0	18.0	39.70	2.21	407	126.0
Ste. Anne de la Pocatière, Que.....	50.4	18.6	32.90	4.94	409	128.2
Cap Rouge, Que.....	56.0	8.2	34.28	3.11	409	117.6
Lennoxville, Que.....	68.0	0.0	37.43	2.68	406	103.9
Brandon, Man.....	64.8	10.8	37.70	1.53	414	173.5
Indian Head, Sask.....	69.0	17.0	40.13	1.22	416	103.8
Rosthern, Sask.....	74.2	11.7	42.70	0.37	419	218.1
Scott, Sask.....	72.0	80.5	41.99	0.79	418	206.9
Lacombe, Alberta.....	77.4	21.4	42.86	2.30	420	205.2
Lethbridge, Alberta.....	78.0	21.5	44.94	0.47	413	230.8
Invermere, B.C.....	74.0	22.0	42.90	0.25	415	211.6
Summerland, B.C.....	68.0	28.0	48.06	0.54	414	191.4
Agassiz, B.C.....	76.0	30.0	49.49	6.26	413	120.0
Sidney, Vancouver I., B.C.....	61.0	32.0	46.70	2.15	411	168.5

J. H. GRISDALE,
Director Experimental Farms.

Ottawa, March 13, 1919.

CROP REPORTS FROM OTHER COUNTRIES.

England and Wales.—The Board of Agriculture reported (May 1) that in most districts April was a rather unfavourable month for cultivation, although in some parts, more especially the northeastern, good progress was made. All work, however, is still very backward, and a great deal of the spring grain yet remains to be sown. Winter wheat is generally quite satisfactory, except on heavy and wet soil, and other winter grain crops are healthy and promising. Comparatively few of the spring-sown crops have yet appeared above ground, but such as have sprouted are showing a good plant. Warmer weather is generally needed. Owing mainly to the lateness in sowing the spring grain crops, comparatively little potato planting has yet been done, apart from the earlies. In most parts of the country planting of the main crop has hardly commenced, and in some instances the preparation of the land for this crop is not yet complete. Reports on clovers and rotation grasses are not very satisfactory in the north and west; they are generally patchy and thin, and of course very backward. In the southeastern half of the country, however, reports are generally much better, and seeds are mostly promising, but have made little growth and are late. Pastures are still very backward, there not having been warmth enough to enable the grass to grow: winter keep has also been getting short. Live stock have made little progress during the month, and are generally in poor condition. The fall of lambs has everywhere been about normal; but the inclement weather has caused losses to be perhaps slightly heavier than usual, both among the lambs and the ewes. The latter are not in very good condition. Labour is in nearly all parts reported to be short, difficulty having everywhere been experienced in getting horsemen and cattlemen more particularly, as well as other forms of skilled labour. A few districts report that the situation is easier.

India.—A supplementary memorandum on the wheat crop of 1918-19, issued on April 4 by the Indian Department of Statistics, states that the revised area under wheat for all India now stands at 23,294,000 acres, as compared with 35,497,000 acres, the finally revised area of 1917-18, a decrease of 12,203,000 acres, or 34.4 p.c.

United States.—The Crop Reporting Board of the United States Department of Agriculture reported (May 8) that on May 1 the area of winter wheat to be harvested was about 48,933,000 acres, or 544,000 acres (1.1 p.c.) less than the acreage planted last autumn and 12,229,000 acres (33.3 p.c.) more than the acreage harvested last year, viz. 36,704,000 acres. The 10-year average percentage of abandonment of acreage is 11.9. The average condition of winter wheat on May 1 was 100.5, compared with 99.8 on April 1, 86.4 on May 1, 1918, and 85.4, the average for the past ten years on May 1. A condition of 100.5 p.c. on May 1 is indicative of a yield per acre of approximately 18.4 bushels, assuming average variations to

prevail thereafter. On the estimated area to be harvested, 18.4 bushels per acre would produce 899,915,000 bushels, or 61.1 p.c. more than in 1918, 117.9 p.c. more than in 1917, and 87.3 p.c. more than in 1916. The out-turn of the crop will probably be above or below the figures given above according as the change in conditions from May 1 to harvest is above or below the average change. The average condition of rye on May 1 was 95.3, compared with 90.6 on April 1, 85.8 on May 1, 1918, and 89.8, the average for the past ten years on May 1. The condition on May 1 forecasts a production of about 122,946,000 bushels, compared with 89,103,000, last year's final estimate and 62,933,000, the 1917 final estimate. The average condition of meadow (hay) lands on May 1 was 94.3 compared with 89.6 on May 1, 1918, and a ten-year average on May 1 of 88.1. The expected hay acreage in 1919 is about 71,224,000 acres (55,927,000 tame and 15,297,000 wild). The May 1 production forecast is 114,930,000 tons, compared with an estimated production of 89,833,000 tons in 1918, and 98,439,000 tons in 1917. Stocks of hay on farms May 1 are estimated as 8,493,000 tons (9.4 p.c. of crop), against 11,476,000 tons (11.7 p.c.) on May 1, 1918, and 11,803,000 tons (12.2 p.c.), the five-year average on May 1. The average condition of pastures on May 1 was 90.3, compared with 83.1 on May 1, 1918, and a ten-year average on May 1 of 84.5. Of spring ploughing 72.7 p.c. was completed up to May 1, compared with 77.5 p.c. on May 1, 1918, and a ten-year average on May 1 of 70.5. Of spring planting 61 p.c. was completed up to May 1, compared with 60.8 p.c. on May 1, 1918, and a ten-year average on May 1 of 58.1.

The New York State report shows that winter wheat was in splendid condition on May 1. The acreage abandoned would be only a fraction of 1 p.c., as compared with about 15 p.c. last year. The condition is reported as 98, which is the highest May 1 condition in 20 years or more, and indicates a probable yield of nearly 22 bushels per acre. The condition of rye is reported as 94 p.c., or 3 p.c. better than the May 1 average during recent years.

INTERNATIONAL INSTITUTE OF AGRICULTURE.

The Bulletin of Agricultural and Commercial Statistics for May gives the areas sown to the principal cereals in countries of the northern hemisphere for 1919, as compared with 1918 and with the average of the five years 1913-17. With the areas converted from hectares to acres the figures are as in Table I.

I. Areas sown to Winter Cereal Crops in the Northern Hemisphere, 1918 and 1919.

Countries.	1918.	1919.	Per cent of 1918.	Five year average 1913-17.	Per cent of five year average
	000 acres.	000 acres.	p.c.	000 acres.	p.c.
Wheat—					
Alsace-Lorraine.....	—	167	—	—	51.7
Denmark.....	141	125	88.8	143	87.6
Spain.....	10,229	11,317	110.6	9,970	113.5
France.....	11,360	11,087	97.6	13,251	83.7
Scotland.....	79	70	88.5	63	110.8
Greece.....	—	937	—	—	—
Italy.....	10,799	10,502	97.3	11,625	90.3
Canada.....	886	840	94.8	944	89.0
United States.....	44,118	48,934	133.3	34,197	143.1
British India.....	35,497	23,415	66.0	30,851	75.9
Japan.....	1,458	1,362	93.4	1,287	105.8
Rye—					
Alsace-Lorraine.....	—	130	—	130	100.3
Denmark.....	537	554	103.3	531	104.5
Spain.....	1,818	2,493	137.1	1,855	134.4
France.....	1,955	1,814	92.8	2,322	78.1
Greece.....	—	59	—	—	—
Italy.....	272	272	100.0	292	93.1
United States.....	6,708	6,820	101.7	3,151	216.4
Barley—					
Alsace-Lorraine.....	—	9	—	—	—
Spain.....	4,210	5,728	136.1	3,791	151.1
France.....	249	256	102.7	322	79.4
Greece.....	—	299	—	—	—
Italy.....	494	466	95.0	580	80.9
Japan.....	2,721	2,931	107.7	3,046	96.2
Oats—					
Alsace-Lorraine.....	21	—	—	—	—
France.....	1,711	1,652	96.6	1,831	90.2
Greece.....	156	—	—	—	—
Italy.....	1,211	1,112	91.8	1,173	94.8

CONDITIONS OF CROPS IN NORTHERN HEMISPHERE.

British India.—The yield of wheat in 1918-19 is estimated at 278,021,180 bushels, as against 379,717,120 bushels in 1917-18, and 352,314,469 bushels, the average of the previous five years, or 73.2 p.c. and 78.9 p.c. of the two last mentioned yields respectively.

Germany.—The latter part of the winter was generally very wet and mild, with some snowstorms. During the first half of March the crops derived much benefit from the sunshine, but there was then a sudden change to strong east wind and frost everywhere, followed by snow. Speaking generally, crops had got through the winter very well until this period. Much of the rye, especially the late sown, has suffered a little from blight, but no important injury has taken place. Other cereals are hardly up to what was hoped for, and present reports are less favourable than earlier ones. The crop condition in Prussia on April 15, 1919, was as follows, expressed according to the German system (1 = very good, 2 = good, 3 = average, 4 = poor): Wheat 2.7; rye 2.6; barley 2.6. Correspondents' replies

to the circular of the Bureau of Agriculture for Germany as to crop conditions on April 15, 1919, were as follows: 68 p.c. of the correspondents say "good to very good," 22 p.c. "average to satisfactory," 10 p.c. "bad," in reference to winter sown crops. For the spring sowings 13 p.c. state that nothing has yet been done, 81 p.c. that the sowings are in progress, and 6 p.c. that they are complete. To a question as to any abandonment of areas sown, 13 p.c. reply affirmatively, 76 p.c. negatively, and 11 p.c. that facts are yet uncertain. As regards rains, 79 p.c. report a sufficiency and 21 p.c. an insufficiency. In reply to inquiry by the Agricultural Bureau of Germany, 12 p.c. of the correspondents state that the area under potatoes is larger than in 1918, 27 p.c. say that it will be less, and 4 p.c. that there is no certainty as to this matter.

Alsace-Lorraine.—Any damage to crops from frost has been relatively unimportant, as there was a good covering of snow; winter wheat suffered somewhat from cold weather in November. Considerable injury was done by field mice, more especially on the high ground and steep slopes of Alsace where resowings were necessitated. The rye crops have suffered here and there from rabbits.

Ireland.—The weather of the third week in April was very mild and favourable for seeding operations. Rapid progress has been made, and in some counties sowing is nearly completed. On April 27 a blizzard of snow and hail with high winds took place, but since then the weather has again become warmer, and at the beginning of May the winter wheat was in very good condition, and early sown spring oats are promising.

CROPS IN SOUTHERN HEMISPHERE.

Table II is a statement of the areas and yields of field crops in countries of the southern hemisphere for the year 1918-19, as compared with 1917-18 and with the average of the five years 1912-13 to 1916-17.

II. Areas and Yields of Cereal Crops in Countries of the Southern Hemisphere, 1917-18 and 1918-19.

Crops and Countries.	1917-18.	1918-19.	Five year average 1912-13 to 1916-17.	Per cent of 1917-18.	Per cent of five year average 1912-13 to 1916-17.
	000 acres.	000 acres.	000 acres.	p.c.	p.c.
Wheat—					
Argentina.....	17,876	16,976	16,264	95.0	104.0
Union of South Africa.....	925	953	743	103.1	128.3
Australia.....	9,678	8,649	10,058	89.4	86.0
New Zealand.....	281	221	219	78.7	101.2
Totals.....	28,760	26,799	27,284	93.2	98.2
Oats—					
Argentina.....	3,200	2,980	2,967	93.1	100.4
New Zealand.....	156	147	285	94.3	51.6
Totals.....	3,356	3,127	3,252	93.2	96.1
Corn—					
Union of South Africa.....	3,300	2,950	2,651	89.4	111.3

II. Areas and Yields of Cereal Crops in Countries of the Southern Hemisphere, 1917-18 and 1918-19—concluded.

Crops and Countries.	1917-18.	1918-19.	Five year average 1912-13 to 1916-17.	Per cent of 1917-18.	Per cent of five year average 1912-13 to 1916-17.	1917-18.	1918-19.	Five year average 1912-13 to 1916-17.
	000 bush.	000 bush.	000 bush.	p.c.	p.c.	bush. per acre	bush. per acre	bush. per acre
Wheat—								
Argentina.....	223,638	184,270	142,086	82.4	129.7	12.49	10.85	8.77
Union of South Africa.....	8,833	8,600	6,175	97.4	139.3	9.50	9.07	8.33
Australia.....	114,867	80,836	110,387	70.4	73.2	11.90	9.37	11.00
New Zealand.....	6,808	6,265	5,834	92.0	107.4	9.37	28.25	26.62
Totals.....	354,146	279,971	264,482	79.1	105.9	12.31	10.44	9.70
Oats—								
Argentina.....	64,598	41,525	51,815	64.3	80.1	20.21	13.91	17.58
New Zealand.....	5,670	5,896	12,112	104.0	48.7	36.21	40.15	42.51
Totals.....	70,268	47,421	63,927	67.5	74.2	20.94	15.16	19.66
Corn—								
Union of South Africa.....	34,285	34,643	33,616	101.0	103.1	10.36	11.79	12.75

The table shows that for wheat the total yield of 1918-19 is 20.9 p.c. less than in 1917-18 and of oats 32.5 p.c. less. Of corn the yield is 1 p.c. more for the Union of South Africa. As compared with the five-year average, the yields are 5.9 p.c. more in the case of wheat, 25.8 p.c. less for oats and 3.1 p.c. more for corn.

STATISTICS OF FARM LIVE STOCK.

Statistics of the numbers of farm live stock have been published in recent issues of the Rome Monthly Bulletin as in Table III:—

III. Numbers of Farm Live Stock.

Description.	July 1, 1917.	June 30, 1918.	Difference.	Per cent.
France—				
Cattle.....	12,443,304	13,314,856	+871,552	+7.0
Sheep.....	10,586,594	9,496,315	-1,090,279	-10.3
Swine.....	4,200,280	4,020,897	-179,383	-4.3
Morocco—	1916-17.	May-June 1918		
Horses.....	107,573	119,045	+11,472	+10.7
Asses.....	286,123	337,998	+51,875	+18.1
Mules.....	43,235	46,255	+3,020	+7.0
Cattle.....	1,030,045	1,172,891	+142,846	+13.9
Sheep.....	4,289,822	4,194,040	-95,782	-2.2
Goats.....	1,266,383	1,258,327	-8,056	-0.6
Swine.....	51,298	102,745	+51,447	+100.3
Camels.....	65,090	68,285	+3,195	+4.9

III. Numbers of Farm Live Stock—concluded.

Description.	July 1, 1917.	June 30, 1918.	Difference.	Per cent.
Denmark—	July 12, 1917.	July 15, 1918.		
Horses.....	572,412	544,999	-27,413	-4.8
Cattle.....	2,458,158	2,123,722	-334,436	-13.6
Sheep.....	480,007	470,051	-9,956	-2.1
Goats.....	32,112	41,411	+9,299	+29.0
Swine.....	1,650,623	620,880	-1,029,743	-62.4
Luxemburg—	Oct. 18, 1917.	Nov. 8, 1918.		
Horses.....	17,282	17,012	-270	-1.6
Cattle.....	114,277	108,004	-6,273	-5.5
Sheep.....	4,334	5,578	+1,244	+28.8
Swine.....	113,671	94,957	-18,714	-16.5
Goats.....	13,951	15,196	+1,245	+8.9
Switzerland—	April 19, 1916.	April 19, 1918.		
Horses.....	136,836	128,644	-8,192	-6.0
Mules.....	3,079	3,056	-23	-0.7
Asses.....	1,288	1,040	-248	-19.3
Cattle.....	1,615,893	1,530,165	-85,728	-5.3
Swine.....	544,563	364,468	-180,095	-33.1
Sheep.....	172,938	225,081	+52,143	+30.2
Goats.....	358,887	354,716	-4,171	-1.2
Tunis—	April 30, 1917.	April 30, 1918.		
Horses.....	32,960	35,831	+2,871	+8.7
Mules.....	15,028	16,236	+1,208	+8.0
Asses.....	77,051	84,639	+7,588	+9.8
Cattle.....	224,912	251,490	+26,578	+11.8
Sheep.....	1,033,173	1,124,998	+91,825	+8.9
Goats.....	459,634	548,912	+89,278	+19.4
Swine.....	10,144	14,596	+4,452	+43.9
Camels.....	111,027	105,037	-5,990	-5.4
Italy—	Mar. 19, 1908. ¹	April 7, 1918. ²		
Horses.....	955,878 ¹	804,168	-151,710	-15.9
Asses.....	849,723 ¹	944,611	+94,888	+11.2
Mules.....	388,337 ¹	308,875	-79,462	-20.5
Cattle.....	6,198,861	6,162,259	-36,602	-0.6
Swine.....	2,507,798	2,337,304	-170,494	-6.8
Sheep.....	11,162,926	11,751,575	+588,649	+5.3
Goats.....	2,714,878	3,082,554	+367,676	+13.5
Sweden—	June 1, 1917.	June 1, 1918.		
Horses.....	715,101	714,822	-279	-0
Cattle.....	3,020,381	2,584,159	-436,222	-14.4
Sheep.....	1,344,202	1,409,473	+65,271	+4.9
Goats.....	135,690	133,304	-2,386	-1.8
Swine.....	1,029,967	635,862	-396,105	-38.5

¹Including those which are army property.²Exclusive of those in army service.

COMPARISON OF THE QUANTITIES AND VALUES OF CANADIAN AGRICULTURAL EXPORTS, 1917 AND 1918.

In the accompanying table the exports of Canadian agricultural and animal products for the two years ended March 31, 1917 and 1918, are compared as to quantity and value. The table gives in columns one and three the value of the exports by principal items for the years 1918 and 1917, and in column two the value of the exports of 1918 at the average prices of 1917. In column four the actual increase or decrease as between 1917 and 1918 is shown; in columns five and six are given the results of calculations showing the increases or decreases in 1918 as compared with 1917 which are due to higher or lower prices (col. five), and the increases or decreases (col. six), which are due to the export of larger or smaller quantities.

Exports of Agricultural and Animal Products, compared as to Quantity and Value, 1917 and 1918 ("000" omitted).

Articles Exported.	Actual Value 1918.	Value at Prices of 1917.	Actual Value 1917.	Increase (+) or Decrease (-).	Due to higher (+) or lower (-) prices.	Due to larger (+) or smaller (-) quantities.
	1	2	3	4	5	6
	\$	\$	\$	\$	\$	\$
Flax fibre and flax tow....	370	150	277	+93	+220	-127
Fruit—Apples, dried.....	6	5	45	-39	+1	-40
Apples, green or ripe.....	408	360	1,980	-1,572	+48	-1,620
Other fruit.....	551	485	608	-57	+66	-123
Grain and Products of—						
Barley.....	8,203	5,516	7,800	+403	+2,687	-2,284
Beans.....	106	74	54	+52	+32	+20
Buckwheat.....	216	168	206	+10	+48	-38
Indian corn.....	200	86	1,577	-1,377	+114	-1,491
Oats.....	37,644	28,046	33,918	+3,726	+9,598	-5,872
Peas, whole.....	480	302	455	+25	+178	-153
Peas, split.....	153	109	151	+2	+44	-42
Rye.....	1,669	1,000	1,293	+376	+669	-293
Wheat.....	366,342	193,810	244,395	+121,947	+172,532	-50,585
Wheat flour.....	95,896	63,490	47,473	+48,423	+32,406	+16,017
Indian meal.....	36	26	38	-2	+10	-12
Oatmeal.....	2,220	1,657	535	+1,685	+563	+1,122
Meal, all other.....	5	2	11	-6	+3	-9
Bran, mill feed, etc.....	5,394	3,093	1,812	+3,582	+2,301	+281
Cereal foods, prepared, all kinds.....	1,496	993	1,645	-149	+503	-652
Hay.....	5,074	9,341	4,219	+855	-4,267	+5,122
Hops.....	1	1	104	-103	-	-103
Malt.....	327	244	123	+204	+83	+121
Maple sugar.....	526	378	299	+227	+148	+79
Maple syrup.....	16	11	12	+4	+5	-1
Seeds, clover.....	1,194	915	1,205	-11	+279	-290
Seeds, flax.....	19,764	13,275	10,736	+9,028	+6,489	+2,539
Seeds, grass.....	171	129	51	+120	+42	+78
Seeds, other.....	38	26	14	+24	+12	+12

Exports of Agricultural and Animal Products, compared as to Quantity and Value, 1917 and 1918 ("000" omitted)—concluded.

Articles Exported.	Actual Value 1918.	Value at Prices of 1917.	Actual Value 1917.	Increase (+) or Decrease (-).	Due to higher (+) or lower (-) prices.	Due to larger (+) or smaller (-) quantities.
	1	2	3	4	5	6
	\$	\$	\$	\$	\$	\$
Straw.....	62	56	48	+14	+6	+8
Tobacco leaf.....	23	20	69	-46	+3	-49
Vegetables, green—						
Beets, sugar.....	23	19	38	-15	+4	-19
Potatoes.....	4,451	3,810	3,299	+1,152	+641	+511
Turnips.....	689	1,070	1,013	-324	-381	+57
Other vegetables.....	139	132	2,181	-2,042	+7	-2,049
Other articles.....	13,821	8,205	5,730	+8,091	+5,616	+2,475
Total Agricultural Products.....	567,714	337,004	373,414	+194,300	+230,710	-36,410
Increase or Decrease.....				p. c. +52.03	p. c. +68.46	p. c. -9.75
Animals—						
Horses.....	3,077	1,554	2,385	+692	+1,523	-831
Cattle, one year old or less.....	687	708	924	-237	-21	-216
Cattle, over one year old.....	13,449	9,498	6,959	+6,490	+3,951	+2,539
Sheep, one year old or less.....	1,376	844	322	+1,054	+532	+522
Sheep, over one year old.....	329	228	173	+156	+101	+55
Swine.....	384	339	33	+351	+45	+306
Other animals and poultry.....	403	277	493	-90	+126	-216
Bones.....	199	146	125	+74	+53	+21
Butter.....	2,000	1,536	2,492	-492	+464	-956
Cheese.....	36,602	34,446	36,721	-119	+2,156	-2,275
Cream, fresh.....	666	567	777	-111	+99	-210
Milk, fresh.....	241	191	130	+111	+50	+61
Cream and milk, condensed, etc.....	4,955	3,775	1,372	+3,583	+1,180	+2,403
Eggs.....	2,271	1,715	1,810	+461	+556	-95
Grease and grease scraps.....	84	58	55	+29	+26	+3
Lard.....	528	396	284	+244	+132	+112
Meats—						
Bacon.....	57,995	41,506	43,011	+14,984	+16,489	-1,505
Beef.....	13,016	10,929	5,750	+7,266	+2,087	+5,179
Hams.....	2,087	1,371	766	+1,321	+716	+605
Mutton.....	192	140	27	+165	+52	+113
Pork.....	2,052	1,427	2,523	-471	+625	-1,096
Tongues.....	34	27	45	-11	+7	-18
Canned meats.....	3,695	3,454	1,717	+1,978	+241	+1,737
Other meats.....	826	421	305	+521	+405	+116
Oil, neat'sfoot and other animal.....	184	139	192	-8	+45	-53
Wool.....	6,865	4,629	2,554	+4,311	+2,236	+2,075
Other articles.....	18,546	14,472	15,850	+2,696	+4,074	-1,378
Total animals and their produce.....	172,743	134,793	127,795	+44,948	+37,950	+6,998
Increase or Decrease.....				p. c. +35.17	p. c. +28.15	p. c. +5.48

The table shows that the total value of Canadian exports of agricultural produce was \$567,714,000 in 1918, as compared with \$373,414,000 in 1917, an increase of \$194,300,000, or 52 per cent in the year. Of the net difference, there was an increase of \$230,710,000, or 68½ per cent caused by higher prices and a decrease of \$36,410,000, or 9¾ per cent caused by smaller quantities. If the prices of 1918 had remained the same as in 1917 the value of the agricultural exports of 1918 would have been only \$337,004,000.

Choosing some of the principal items in the list of agricultural exports, wheat showed an increase in value of \$172,532,000 due to higher prices, but a decrease of \$50,585,000 due to smaller quantities. Wheat flour showed an increase of \$32,406,000 due to higher prices and of \$16,017,000 due to larger quantities. Oats likewise showed an increase of \$9,598,000 due to higher prices and a decrease of \$5,872,000 due to smaller quantities. The value of exports of flaxseed was increased by \$6,489,000 from higher prices and by \$2,539,000 from larger quantities.

The exports of animals and their produce was \$172,743,000 in 1918, as compared with \$127,795,000, an increase of \$44,948,000, or over 35 per cent. Of the total increase, \$37,950,000, or over 28 per cent, represented increased prices and \$6,998,000, or 5½ per cent, increased quantities. Of individual items cheese was exported in 1918 to the value of \$36,602,000, as compared with \$36,721,000 in 1917, a net decrease of \$119,000, caused by an increase due to higher prices of \$2,156,000 and a decrease due to smaller quantities of \$2,275,000. The exports of bacon increased in value from \$43,011,000 in 1917 to \$57,995,000, the difference of \$14,984,000 being due to an increase in prices of \$16,489,000, less \$1,505,000 due to smaller quantities.

THE WEATHER DURING APRIL.

The Dominion Meteorological Service reports that the mean temperature was above normal in all districts west of Lake Superior, and below in all districts east. The largest positive departures, about 6°, occurred in Alberta and western Saskatchewan, and the largest negative from 3° to 4°, in the Ottawa valley. In the western provinces there were no really cold spells, but from Ontario eastward the month opened quite cold, and on the 24th and 25th an unusually severe dip occurred in Ontario and Quebec. In British Columbia the total precipitation was very generally in excess of the average. In the western provinces it aggregated an amount somewhat in excess of the average in the more southern districts, while in the north it was deficient. In all other parts of Canada, except in Ontario between Lake Superior and the Manitoba boundary, it was in excess, and particularly so in southwestern and eastern Ontario and throughout the province of Quebec. The heaviest snowfalls occurred in both Ontario and Quebec about the 25th and 26th.

PRICES OF AGRICULTURAL PRODUCE, 1919.

I. Weekly Range of Cash Prices per bushel of Canadian Grain at Winnipeg and Fort William, 1919.

Grain and Grade.	May 3.		May 10.		May 17.		May 24.		May 31.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—										
No. 1 Nor.....	2 24½	—	2 24½	—	2 24½	—	2 24½	—	2 24½	—
No. 2 Nor.....	2 21½	—	2 21½	—	2 21½	—	2 21½	—	2 21½	—
No. 3 Nor.....	2 17½	—	2 17½	—	2 17½	—	2 17½	—	2 17½	—
No. 4.....	2 11½	—	2 11½	—	2 11½	—	2 11½	—	2 11½	—
No. 5.....	1 99½	—	1 99½	—	1 99½	—	1 99½	—	1 99½	—
No. 6.....	1 90½	—	1 90½	—	1 90½	—	1 90½	—	1 90½	—
Feed.....	1 77 —1 79		1 79 —1 80		1 80 —1 82		1 82		1 82 —1 83	
Oats—										
No. 2 C.W.....	0 72½—0 76½		0 73½—0 76		0 74½—0 75½		0 74½—0 76		0 76 —0 76½	
No. 3 C.W.....	0 69½—0 73½		0 70½—0 73		0 71½—0 72½		0 71½—0 73½		0 73½—0 74	
No. 1 Feed Ex.....	0 69½—0 72½		0 70½—0 72½		0 71 —0 71½		0 71½—0 73		0 71½—0 73½	
No. 1 Feed.....	0 67½—0 70½		0 68 —0 70		0 68½—0 69½		0 69 —0 70½		0 69½—0 71½	
No. 2 Feed.....	0 64½—0 67½		0 65 —0 67		0 65½—0 66½		0 65½—0 67		0 66½—0 67½	
Barley—										
No. 3 C.W.....	1 05½—1 13½		1 12½—1 18½		1 14½—1 22½		1 18½—1 20½		1 20½—1 29½	
No. 4 C.W.....	1 00½—1 07½		1 07½—1 12		1 07½—1 14½		1 12½—1 14½		1 15 —1 24½	
Rejected.....	0 93½—1 00½		0 98½—1 03		0 97½—1 01½		1 01½—1 05		1 04½—1 12½	
Feed.....	0 93½—1 00½		0 98½—1 03		0 97½—1 01½		1 01½—1 04½		1 04 —1 12½	
Flax—										
No. 1 N.W.C.....	3 81 —4 02		3 84 —3 93		3 97 —4 04½		4 04 —4 18		4 22 —4 35	
No. 2 C.W.....	3 74½—3 95		3 80 —3 87		3 91 —4 01		4 01 —4 15		4 19 —4 32	
No. 3 C.W.....	—		3 58 —3 60		3 61 —3 71½		3 69½—3 78½		3 78 —3 96½	

II. Monthly Range of Prices per bushel of Grain at Selected Markets in the United States, 1919.

(From the Monthly Crop Report of the U.S. Dept. of Agriculture.)

Grade and Market.	January.		February.		March.		April.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat, Red Winter, No. 2—								
St. Louis.....	2 36 —2 55		2 35 —2 43		2 36½—2 63		2 60 —2 78	
Chicago.....	2 23 —2 32		2 23 —2 36		2 35½ —		2 58 —2 68	
New York (f.o.b. afloat).....	2 38 —		2 37 —2 38		2 38 —		2 38 —	
Corn, No. 2 mixed—								
St. Louis.....	1 56 —		—		1 57 —1 58		1 61 —1 66	
Corn, No. 2—								
Chicago.....	1 22 —1 62		1 22 —1 38		1 31½—1 64		1 55½—1 72	
Oats, No. 2—								
St. Louis.....	0 56 —0 75		0 59 —0 63½		0 61½—0 69½		0 67½—0 73	
Chicago.....	0 54 —0 76½		0 55½—0 64		0 58½—0 67½		0 66½—0 75½	
Rye No. 2—								
Chicago.....	1 57 —1 65		1 45 —1 47		1 45 —1 76½		1 64½—1 81½	

III. Range of Prices of Imported Grain and Flour at British Markets, 1919.

Mark Lane.	April 17-28.	Liverpool.	April 1-27.
Wheat—	\$ c. \$ c.	Wheat—	\$ c.
Canadian No. 1.....	2 51 —	Nor. Man. No. 1.....	2 52 $\frac{1}{2}$
Canadian No. 2.....	2 48 —	Nor. Man. No. 2.....	2 52 $\frac{1}{2}$
American Spring ¹	2 51 —	Man. No. 4.....	2 52 $\frac{1}{2}$
“ Hard Winter.....	2 51 —	Red Winter No. 1.....	2 52 $\frac{1}{2}$
“ Rde Winter.....	2 48 —	Spl. Red Winter, new.....	2 52 $\frac{1}{2}$
Californian.....	2 51 —	Australian.....	2 52 $\frac{1}{2}$
Australian.....	2 53 $\frac{1}{2}$ —		
Indian.....	2 53 $\frac{1}{2}$ —		
Argentine ¹	2 51 —		
Oats—			
Canadian.....	1 62 $\frac{1}{2}$ —1 65 $\frac{1}{2}$		
American.....	1 39 $\frac{1}{2}$ —1 42 $\frac{1}{2}$		
Argentine.....	1 60 $\frac{1}{2}$ —1 62 $\frac{7}{8}$		

¹For April 7, \$2.49 $\frac{1}{2}$.

III. Average Prices of British-Grown Grain, 1919.

(From the “London Gazette,” as published pursuant to s. 8 of the Corn Returns Act, 1882.)

Week ended	Wheat.		Barley.		Oats.	
	Per quarter.	Per bushel.	Per quarter.	Per bushel.	Per quarter.	Per bushel.
	s. d.	\$ c.	s. d.	\$ c.	s. d.	\$ c.
April 5.....	72 6	2.205	62 8	1.830	47 2	1.250
“ 12.....	73 0	2.220	62 9	1.832	47 1	1.247
“ 19.....	73 1	2.223	62 9	1.832	47 3	1.252
“ 26.....	73 1	2.223	62 9	1.832	48 1	1.274
Average.....	72 11	2.218	62 9	1.832	47 5	1.256

PUBLICATIONS

OF THE

Department of Trade and Commerce

ANNUAL REPORT OF THE DEPUTY MINISTER.

MAIL SUBSIDIES AND STEAMSHIP SUBVENTIONS (Annual).

BOARD OF GRAIN COMMISSIONERS FOR CANADA (Annual).

RULES AND REGULATIONS OF THE BOARD OF GRAIN COMMISSIONERS (Annual).

LIST OF LICENSED ELEVATORS, ETC.

GRAIN INSPECTION IN CANADA, (1914).

WEEKLY BULLETIN, containing Reports of Trade Commissioners and other Commercial Information.

PATENT OFFICE RECORD (WEEKLY).

RULES AND FORMS OF THE CANADIAN PATENT OFFICE.

CANADA AND THE BRITISH WEST INDIES (1915).

CANADA THE COUNTRY OF THE TWENTIETH CENTURY (1915) 75c., \$1.00.

HANDBOOK FOR EXPORT TO SOUTH AMERICA (1915).

TRADE WITH CHINA AND JAPAN (1914).

REVIEW OF COMMERCIAL INTELLIGENCE SERVICE (1916).

RUSSIAN TRADE (1916).

DIRECTORY OF RUSSIAN IMPORTERS (1915).

THE GERMAN WAR AND ITS RELATION TO CANADIAN TRADE (1914).

TOY MAKING IN CANADA (1916).

THE TIMBER-IMPORT TRADE OF AUSTRALIA (1917).

FOOD INSPECTION BULLETINS.

TRIAL SHIPMENT OF WHEAT, from Vancouver via the Panama Canal to the United Kingdom.

GAS AND ELECTRICITY (Annual).

WEIGHTS AND MEASURES (Annual).

For List of Publications of the Dominion Bureau of Statistics, see page iv of cover.

PUBLICATIONS

OF THE

DOMINION BUREAU OF STATISTICS.

THE CANADA YEAR BOOK, 1918, with Map of Canada and Newfoundland, a Statistical Summary of the Progress of Canada, Frontispiece and numerous other illustrations. (Jubilee Volume). pp. 1-xvii, 1-686.

Contents: I The Story of Confederation, by Sir JOSEPH POPE, K.C.M.G., C.V.O. I.S.O., Under Secretary of State for External Affairs, Ottawa, with 2 illustrations; II Chronological History of Canada, 1497-1918; III Fifty years of Canadian Progress, 1867 to 1917, by ERNEST H. GODFREY, F.S.S., Editor, Dominion Bureau of Statistics, Ottawa; IV Physical Characteristics of Canada, including Geographical Features; Economic Geology in Canada, 1918, by WYATT MALCOLM, Department of Mines, Ottawa; V Area and Population; VI Education; VII Climate and Meteorology, including The Climate of Canada since Confederation, by Sir FREDERIC STUPART, Director, Dominion Meteorological Service, Toronto; VIII Production: IX Trade and Commerce; X Transportation and Communications; XI Labour; XII Finance; XIII Administration; XIV Legislation in 1917 and 1918 and Principal Events of the Year 1918; XV Extracts from the Canada Gazette, 1917 and 1918.

THE CANADA YEAR BOOK. Second Series 1905-1917. [1910, 1913 and 1916-17, out of print.]

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. Nos. 1 to XIX.

REPORT OF THE FIFTH CENSUS OF CANADA, 1911.

Vol. I, 1912. Areas and Population by Provinces, Districts and Subdistricts with introduction, Tables I to XV, pp. i-viii, 1-623. [Out of print.]

Vol. II, 1913. Religions, Origins, Birthplace, Citizenship, Literacy and Infirmitates by Provinces, Districts and Subdistricts, with Introduction. Tables I-XLVI, pp. i-iv, 1-634.

Vol. III, 1913. Manufactures for 1910 as enumerated in June 1911, with Introduction. Table I-XX, pp. i-xvi, 1-432. [Out of print.]

Vol. IV, 1914. Agriculture, with Introduction. Tables 1-90; I-XXXV, pp. i-xcv, 1-428. Diagrams, 5 pp. [Out of print.]

Vol. V, 1915. Forest, Fishery, Fur and Mineral Production, with Introduction. Tables 1-51; I-XXVI, pp. i-l, 1-171.

Vol. VI, 1916. Occupations of the People, with Introduction. Tables 1-25; I-VI, i-xxxi, 1-469. [Out of print.]

REPORT OF THE CENSUS OF POPULATION AND AGRICULTURE OF THE PRAIRIE PROVINCES, 1916. January 12, 1918. Tables 1-54; I-XXVI, pp. i-lxiv; 1-356.

SPECIAL REPORT ON THE FOREIGN-BORN POPULATION. Abstracted from the Records of the Fifth Census of Canada, June 1911. 23 tables. 62 pp. 1915.

REPORT OF THE POSTAL CENSUS OF MANUFACTURES, 1916. pp. i-xi; 1-263, 1917.

REPORT ON THE PRODUCTION OF CREAMERIES AND CHEESE FACTORIES, 1915 and 1916, pp. 1-24, 1917. [Out of print.]

REPORT ON THE CENSUS OF INDUSTRY, 1917. Part I. (AGRICULTURAL STATISTICS); Part II. (DAIRY FACTORIES), in the press; Part III. (FISHERY STATISTICS); Part IV, Section 4 (PULP AND PAPER). Other Parts in preparation.

EXTERNAL TRADE: ANNUAL REPORT OF THE TRADE OF CANADA; MONTHLY REPORT OF THE TRADE OF CANADA.

INTERNAL TRADE: ANNUAL REPORT ON THE GRAIN TRADE OF CANADA; ANNUAL REPORT ON THE COAL TRADE OF CANADA; MONTHLY PRODUCE BULLETINS, showing stocks in warehouse, in transit, etc.

CRIMINAL STATISTICS. Annual Report for Year ended September 30, 1917. pp. i-li, 1-270.

CENSUS AND STATISTICS MONTHLY, Vols. 1-10, 1908-1916; Vol. 10, Nos. 101-103, 1917. MONTHLY BULLETIN OF AGRICULTURAL STATISTICS, Vols. 10 to 12, Nos. 104-129, 1917-19.

REPORT OF CONFERENCE ON VITAL STATISTICS, June 19-20, 1918, pp. 1-43, 1918.

THE BEET SUGAR INDUSTRY, Bulletin IX, with 3 illustrations, pp. 1-75, 1909.

For list of Publications of the Department of Trade and Commerce, see page iii of cover.

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OF

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Printer to the King's Most Excellent Majesty

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DOMINION BUREAU OF STATISTICS, OTTAWA, CANADA.

FIELD CROPS OF CANADA.

Report for the month ended May 31, 1919.

The Dominion Bureau of Statistics issued to-day the first or preliminary estimate of the areas sown to grain and hay crops this spring, together with a report on their condition on May 31, as compiled from the returns of crop correspondents.

AREAS SOWN TO GRAIN, HAY AND POTATOES.

Wheat shows for the whole of Canada an estimated total area of 16,958,500 acres, as compared with 17,353,902 acres in 1918, a decrease of 395,402 acres, or 2 p.c. In 1918 the area sown was 1,477,150 acres, or 10 p.c., more than the area of 1917. Owing to the mildness of the winter of 1918-19 the area to be harvested of fall wheat is 797,750 acres, representing 381,135 acres, or 91 p.c., more than in 1918. The area sown to spring wheat is 16,160,750 acres, representing 776,537 acres, or 5 p.c., less than in 1918. Of oats the total area sown is 14,654,000 acres, which is 136,000 acres, or 1 p.c. less than in 1918. The acreage of the remaining crops is as follows: Barley 3,036,240 acres, as compared with 3,153,711 acres in 1918, rye 575,585 acres as against 555,294 acres, peas 208,250 acres as against 235,976 acres, mixed grains 877,240 acres as against 921,826 acres, hay and clover 10,472,700 acres as against 10,544,625 acres and alfalfa 192,480 acres as against 196,428 acres. This year reports on potato planting were asked for a month earlier than heretofore, and the replies indicate an area under potatoes of 692,900 acres as compared with 735,192 acres last year, a decrease of 42,292 acres, or 6 p.c. Potato-planting had not made much progress in the Maritime Provinces and in Quebec at the end of May; so that the estimate must be considered as of very tentative character.

GRAIN ACREAGE OF PRAIRIE PROVINCES.

The area sown to wheat in the three Prairie Provinces totals 15,450,700 acres, as compared with 16,125,451 acres last year, to oats 9,614,000 acres, as compared with 9,354,941 acres, to barley 2,162,000 acres as compared with 2,272,334 acres, and to rye 436,000 acres as against 411,846 acres. By provinces the areas are: Wheat, Manitoba, 2,913,100 acres; Saskatchewan, 8,879,000 acres; Alberta, 3,658,600 acres. Oats, Manitoba, 1,715,000 acres; Saskatchewan, 5,088,000 acres; Alberta, 2,811,000 acres. Barley, Manitoba, 1,082,000 acres; Saskatchewan, 643,000 acres; Alberta, 437,000 acres. Rye, Manitoba, 249,000 acres; Saskatchewan, 137,000 acres; Alberta, 50,000 acres.

III. Condition of Field Crops, May 31, 1917, 1918 and 1919—con.

Field Crops.	1917.	1918.	1919.	Field Crops.	1917.	1918.	1919.
Nova Scotia—con.				Manitoba—con.			
Barley.....	108	99	96	Oats.....	98	99	101
Rye.....	71	101	100	Barley.....	87	99	101
Peas.....	105	101	104	Rye.....	97	91	104
Mixed grains.....	91	101	86	Mixed grains.....	90	96	100
Hay and clover.....	90	80	106	Hay and clover.....	85	86	103
Pasture.....	84	98	110	Alfalfa.....	77	84	98
New Brunswick—				Pasture.....	79	85	107
Spring wheat.....	86	105	100	Saskatchewan—			
Oats.....	72	105	100	Spring wheat.....	83	97	96
Barley.....	75	100	98	Oats.....	87	100	97
Peas.....	98	104	101	Barley.....	92	97	97
Mixed grains.....	77	106	101	Rye.....	112	97	98
Hay and clover.....	85	107	102	Peas.....	72	95	100
Alfalfa.....	—	95	—	Mixed grains.....	97	97	97
Pasture.....	84	106	99	Hay and clover.....	99	95	93
Quebec—				Alfalfa.....	90	76	95
Spring wheat.....	97	107	96	Pasture.....	97	95	102
Oats.....	93	105	94	Alberta—			
Barley.....	96	104	96	Fall wheat.....	107	79	89
Rye.....	109	103	96	Spring wheat.....	98	95	97
Peas.....	97	104	94	All wheat.....	102	95	95
Mixed grains.....	97	104	95	Oats.....	96	94	96
Hay and clover.....	88	104	103	Barley.....	94	93	92
Alfalfa.....	102	95	101	Rye.....	93	99	99
Pasture.....	85	104	101	Peas.....	88	95	70
Ontario—				Mixed grains.....	97	106	92
Fall wheat.....	82	74	102	Hay and clover.....	100	90	93
Spring wheat.....	89	104	92	Alfalfa.....	100	93	91
All wheat.....	91	84	96	Pasture.....	100	88	95
Oats.....	96	105	88	British Columbia—			
Barley.....	99	104	88	Fall wheat.....	78	96	97
Rye.....	91	87	95	Spring wheat.....	100	99	97
Peas.....	100	100	88	All wheat.....	94	98	97
Mixed grains.....	100	102	90	Oats.....	72	98	97
Hay and clover.....	80	100	99	Barley.....	99	98	97
Alfalfa.....	95	103	95	Rye.....	95	95	102
Pasture.....	80	101	101	Peas.....	99	96	99
Manitoba—				Mixed grains.....	100	95	102
Fall wheat.....	77	93	99	Hay and clover.....	99	97	101
Spring wheat.....	93	92	105	Alfalfa.....	97	96	97
All wheat.....	93	92	105	Pasture.....	97	93	100

REPORTS FROM THE PROVINCES.

Maritime Provinces.—There was much cold, wet, windy weather during May, which delayed sowing and planting and produced little growth, except in pastures and meadows, which were looking exceptionally well. Fruit trees and bushes were just beginning to blossom and where far enough advanced for judgment promised heavy yields if the weather during pollenization should be favourable. Garden vegetables were just appearing above ground.

Quebec.—The seeding is late, owing to the cold weather and heavy rain; but the crops that are sown present a fine appearance. The apple orchards are in blossom and promise excellent crops. The outlook for small fruits is also promising.

Ontario.—During the early part of May continuous rains retarded seeding operations on the lowlands, but seeding is now almost all finished and crops of all kinds promise well. Grain is making rapid headway, while hay, alfalfa and clover are in excellent condition. Vegetables are not far enough advanced to report upon owing to the backward spring. Orchards and small fruits have abundance of bloom, and prospects for fruit of all kinds are good excepting apples, which are below average.

Manitoba.—All sowing was very late, owing to cold, wet weather during April. Warm rains and excessive heat during the early part of May has caused rapid growth everywhere. All grains are in excellent condition. Cutworms have been reported in some districts, but little damage has been done. Orchards and garden fruits are in bloom and promise fair crops. Vegetables are doing nicely, but rain is needed.

Saskatchewan.—In some parts of northern Saskatchewan the high winds of May, accompanied by dry weather and drifting sand, have been very detrimental to spring crops. Other reports show grain to be in excellent condition. Small fruits are in blossom and should be a fair crop. Vegetables are doing nicely, but much of the seed planted this year will not germinate. In the southern part of the province conditions have been ideal for seeding, and crops are all doing nicely. Rain throughout the province is badly needed. There is a splendid showing of bush fruits, and garden truck is well advanced. Cutworms are prevalent in many districts.

Alberta.—Heavy snow early in May supplied much needed moisture, and crops came on rapidly, although in some sections frost damaged spring crops considerably. During the past few weeks dry weather and continuous high winds have injured grain. Rain is badly needed everywhere. Vegetables are coming up nicely. Cutworms are prevalent, but very little damage has been done. Small fruits promise an abundant yield.

British Columbia.—Spring opened early, followed by cold, wet weather, which retarded seeding until a late date. Crops are now in good condition and promise well. There is a magnificent showing of blossoms everywhere, and prospects are for an ample crop of fruit and berries.

CROP REPORTS FROM PROVINCIAL GOVERNMENTS.

Ontario.—The Ontario Department of Agriculture reports (June 16) that fatalities among horses engaged in field work during the last two or three weeks have been very heavy. The Lanark representative stated that within a radius of fifteen miles of the town of Perth about fifty horses died as a result of the intense heat. The unusually hot weather has also baked clay soils to such an extent that in some cases spring sowing has been prevented, and the progress of some of the growing crops has been checked. On the other hand local rains have occurred so timely in some quarters that the growth of vegetation has been surprisingly rapid. A claim comes from Brant

that in thirteen days from the time of planting, corn has measured ten inches above ground, while a field of rye is reported in Essex that already averages over seven feet in height. Early sown spring grains look well, but those put in late are not expected to do well. Fall wheat is heading out fast. The straw is long, and some of the crop was knocked down by the rainstorm of Friday. Clover promises well, as last year's seeding is turning out better than was expected. Some alfalfa has been cut and has done well.

Manitoba.—The Department of Agriculture reported (June 9) that the crops on the whole are well advanced and promising. The splendid amount of moisture in the ground at the beginning of May, combined with the general warmth of that month, caused rapid growth. The heat during the last ten days of May was almost unprecedented for the time of year, but very few complaints as to any bad effects have been made. In a few spots slight frosts fell at the beginning of June, but no serious damage occurred. Cutworms are at work in some places, and in the extreme southwestern part of Manitoba there are grasshoppers. Damage through soil drifting by wind has not been great, and very little reseeding, if any, has been necessary. At present there is a general need of rain, though the crop is still going ahead on the supply of moisture in the soil. Pastures have been good and animals are thriving. The acreage sown to various crops seems to be about the same as last year. Some correspondents complain that the Winnipeg strike has interfered with farmers getting supplies and machinery needed to carry their work forward, and it is known that the dairy, live stock, wool and egg trades have been harmed by the same cause. Labour generally is scarce and wages are high, being about \$60 to \$65 per month and board.

Saskatchewan.—The Department of Agriculture telegraphed (June 16) as follows: "Seeding practically completed. High winds have done very little damage. Hardly any reseeding necessary. Crops in excellent condition and making rapid growth. Sufficient moisture at present, although rain would be beneficial, especially in north and northwestern parts of province where very little rain has fallen this year. All live stock reported in good condition; some cattle reported lost in bush fires in northern part of province."

Alberta.—The Department of Agriculture states (June 16) that the report of May 31 indicated a continuation of rather favourable crop conditions following the period of active seeding, subject to a delay of warmth over the whole of the province and the prevalence of drying winds. In the south the moisture supply had not got beyond current requirements. Cutworms had appeared in some localities corresponding with the areas of limited moisture but really occurring generally in all of the open prairie area of the province as far north as Ponoka. This condition up to the end of the third week of May did not appear to be wholly favourable, but on May 28 a general rain set in reviving the whole crop of the province and changing the general outlook to a hope of good crop progress. The rains at the close of the month were scarcely sufficient to put an end to cut-

worm troubles and this has continued to the point of bringing about an appreciable damage of crops generally at points such as Magrath, Carmangay, Retlaw, Vulcan, Claresholm, Olds, Innisfail, Red Deer, Lacombe and Ponoka; also at points along the open eastern side of the province. Gardens have suffered in an area considerably wider and more general than the area where field crop damage has occurred. The damage from cutworms is now practically spent. It is reported to amount to as high as 5 p.c. in a few districts in the south, but this is probably putting it rather high. Cutworms are somewhat bad in Carstairs and Olds districts to the north of Calgary. South of Calgary the worst area for cutworms is between High River and Retlaw. Grasshoppers are reported from only one district in the south, but not as a limiting factor. Since the general rain on the 28th and 29th of May there has not been a similar general rain, but there have been in nearly all parts of the province fairly satisfying local showers. In the Peace river country reports go to show that the supply during the whole of the past month has been abundant, and crops are in good condition both as to grain and hay, but the progress of growth is not as rapid as it should be owing to rather cool weather. Heat and sunshine are the helps principally needed to speed up the crop. There is no damage reported in the north from cutworms and very little soil drifting. In the central part of the province there have been frequent rains of local character. Nearly every part of central Alberta has been well served for moisture, except along the eastern half of the Canadian Northern Railway between Edmonton and Lloydminster. In the Vermilion district conditions have not been very favourable since seeding. There have been strong winds and very little rain, and in this neighbourhood it will require very good conditions to bring the crop up to an ordinary average. Otherwise the crop for a hundred-mile radius around Edmonton is good. It has not received the moisture that the farmers would like, but grain crops are established in good condition and have only been held back by cool weather. The slow spring has somewhat bound up the growth of tame meadows, and the top of vegetation on native pastures is not as forward as it might be, but cattle and horses are both looking well. In southern Alberta conditions are somewhat irregular due to the unequal distribution of rains, the ravages of cutworms in special localities, the effect of winds and the variation in the strength of crop due to differences in the preparation of land. The eastern side of the south has been rather fortunate in moisture and likewise the country immediately tributary to the foothills, and rains have occurred along the middle district all the way from Red Deer to the boundary, but chiefly in short showers. In the middle south moisture is needed to save the crop on land other than summer-fallow. It is not yet possible to predict a full crop. Conditions over most parts of the province may be safely called good, but in the area where moisture is most commonly below ideal supply there is still an aspect of precariousness. The weather, however, is apparently broken, and there is ground to hope for ultimately good returns.

TELEGRAPHIC CROP REPORTS.

The following telegrams have been received by the Dominion Bureau of Statistics from the Superintendents of the Dominion Experimental Farms describing crop conditions during the first week of June:—

Prince Edward Island: Charlottetown.—May temperature normal; fine weather prevailed last week. Seeding general on the 18th. Seventy-five p.c. grain and 25 p.c. potatoes planted at close of month. Hay prospects good.

Nova Scotia: Kentville.—May has been a favourable month for putting in crops. Hay and grain look well. Fruit trees wintered well, and the fruit bloom is the heaviest on record.

New Brunswick: Fredericton.—May cold and generally dry, facilitating seeding. Grain all seeded and potatoes mostly planted in Upper St. John Valley. More precipitation in eastern section of province preventing seeding. Grass looks well, and fall rye at Experimental Farm is 3 feet high and heading. Fall wheat also looking well. Live stock all on pasture at end of month.

Quebec: Ste. Anne de la Pocatière.—Spring backward eastern Quebec; May rather cool and wet; first tillage on 8th. Seeding hardly possible before 15th; became general 20th. Only 30 p.c. grain and potatoes in ground to date. Meadows wintered well; clover very promising. Fruit trees wintered well. Leaves opening.

Cap Rouge.—Season late; seeding operations delayed. At beginning of June no corn or roots and not more than half of the grain is sown. Prospects good for hay, pasture and fruit. **Lennoxville.**—An average acreage has been sown to grain this season with smaller percentage of wheat than last two years, but an increase in other grains and forage crops. Seeding practically completed with the exception of swedes and beans. Clover wintered very well and promises good crops.

Ontario: Ottawa.—Season very backward. With the exception of a small area, very little grain was sown before the last week of May. Grasses and clovers promise very well. Very good prospects for all fruit. Vegetables were sown very late. Not much progress as yet.

Manitoba: Brandon.—May started cool with some showers, but last half very hot and dry. Wheat seeding completed normal time. Coarse grains in by end of month. Crop got good start, was injured somewhat by heat, but would recover quickly if rain came. Some damage by cutworms and grasshoppers reported. **Morden.**—Grain crops and grasses looking well, but other crops poor. Latter part of May exceptionally dry, and temperatures ranging from 95 to 100. Soil moisture very good.

Saskatchewan: Rosthern.—Temperature 97 on 29th. No frost after 15th. No rain more than mere showers since April 27. High winds almost continuous. No hay crop possible. No pasture. About 90 p.c. damage to crops by drought and soil drifting. **Indian Head.**—All crops growing and looking well. Hot weather and high

winds damaged some districts. Rain needed. Some localities report damage from cutworms and grasshoppers. Crops further advanced than usual. **Scott.**—Weather unusually warm for May. Winds have damaged crops in some sections. Sufficient warmth and moisture for unusually prompt germination and good crop growth. Early grain crops covering ground.

Alberta: Lethbridge.—Rainfall for May 1 inch less than normal. Crops generally in need of moisture, but rain of 8 inches last few days of month improved conditions. Crop prospects in southern Alberta about 100 p.c., but copious June rains required on account of the scanty reserve of moisture in subsoil. **Lacombe.**—Heavy snowfall early May delayed spring work ten days. Warm, windy weather followed. Cutworms did small amount of damage. Rain and snow last of May supplied needed moisture. Wheat and 60 p.c. of oats up. Area unchanged. Crop prospects splendid.

British Columbia: Invermere.—Low temperatures and lack of rain, only 0.85 being recorded, have made conditions unfavourable for crop growth, and the season is very backward. On irrigated land clover and alfalfa promise well. Frost has done considerable damage in the gardens. **Summerland.**—May has been very cold. Cherry crops greatly reduced. Apricots patchy. Peaches and pears good. Apples very good. Cold weather kept back June drop. No definite report can be given until this is over. First crops of alfalfa lighter than last year. **Agassiz.**—May cool, damp, cloudy, resulting in very late spring; less than a third the sunshine for May of last year. Precipitation 4.71 inches, slightly more than average. Hay and pastures excellent and early. Other crops, especially cereals, corn and roots, late. **Sidney, Vancouver Island, B.C.**—Weather conditions during May were favourable to crop development. Autumn-sown cereals, small fruits, orchard fruits and hay meadows give promise of yielding above average. Spring cereals, corn and oats are slow in making a start. Live stock is in good condition; pasture excellent.

DATES OF SEEDING AND GERMINATION OF SPRING WHEAT, 1919.

Tables I and II on pages 132 and 133 complete last month's returns as to the seeding and germination of spring wheat, for the season of 1919, by adding to the April records those of May. It will be observed that seeding was general throughout the Maritime Provinces and in Quebec during the month of May and especially during the second and third weeks. In Ontario and in the Prairie Provinces most of the seeding was general during the third and fourth weeks of April. Visible germination began in the second week of May for the Maritime Provinces and Quebec, but became general during the third and fourth weeks of that month. In Ontario and the Prairie Provinces the largest number of records of visible germination were in the first and second weeks of May. The last two columns of Table II show the average number of days from seeding to appearance above ground.

[Continued on p. 134]

I. Dates of Seeding of Spring Wheat, 1919.

Province and District.	Earliest date when seeding is general	Total No. of replies in April	Number of records that seeding was general.								Total No. of replies in May
			April 1-7	April 8-14	April 15-21	April 22-30	May 1-7	May 8-14	May 15-21	May 22-31	
Prince Edward Island.....	May 9..	-	-	-	-	-	-	8	15	5	28
Nova Scotia.....	" 1..	-	-	-	-	11	19	41	19	90	
New Brunswick.....	" 1..	-	-	-	-	7	21	13	2	43	
Quebec: North of St. Lawrence.....	April 29..	1	-	-	1	9	16	21	5	51	
" " South of St. Lawrence.....	May 5..	-	-	-	-	3	19	29	6	57	
" " Eastern townships.....	April 17..	5	-	1	4	12	21	21	4	58	
" " Montreal counties.....	April 23..	1	-	-	1	3	9	17	6	35	
Ontario: Eastern.....	" 20..	22	-	-	2	20	12	10	19	6	47
" " Central.....	March 29..	82	-	2 ¹	27	53	14	13	2	3	32
" " North Western.....	" 31..	124	2 ¹	6	38	78	16	18	4	-	38
" " South Western.....	" 10..	114	38 ²	7	33	36	10	3	1	4	18
" " Northern.....	" 20..	24	-	-	4	20	10	5	8	-	23
Manitoba: Eastern.....	April 15..	29	-	-	5	24	4	1	-	-	5
" " North Central.....	" 17..	41	-	-	11	30	2	-	-	-	2
" " South Central.....	" 14..	58	-	1	25	32	1	-	1	-	2
" " North Western.....	" 14..	69	1	1	30	38	5	-	-	-	5
" " South Western.....	" 17..	53	-	-	14	39	2	-	-	-	2
Saskatchewan: North.....	" 6..	89	1	17	53	18	1	1	-	-	2
" " South.....	" 1..	70	2	3	35	30	3	-	-	-	3
Alberta: North.....	" 6..	53	4	11	29	9	1	2	-	1	4
" " South.....	" 1..	26	7	9	8	2	1	-	-	-	1
British Columbia.....	" 1..	14	6	5	4	3	2	1	-	-	3

¹Including 1 in last week of March.²Including 2 in second week, 5 in third week, and 13 in last week of March.

II. Dates of Appearance above Ground of Spring Wheat, 1919.

Province and District.	Earliest date of appearance above ground.	Total No. of replies in April.	Number of records of appearance above ground.								Total No. of replies in May.	Average No. of days from seeding to appearance above ground, as received in	
												April	May
			April 1-7	April 8-14	April 15-21	April 22-30	May 1-7	May 8-14	May 15-21	May 22-31			
Prince Edward Island.....	May 16..	-	-	-	-	-	-	-	5	14	19	9	
Nova Scotia.....	" 9..	-	-	-	-	-	-	3	23	35	61	10	
New Brunswick.....	" 12..	-	-	-	-	-	-	3	17	17	37	10	
Quebec: North of St. Lawrence.....	" 5..	-	-	-	-	1	4	16	20	20	41	9	
" " South of St. Lawrence.....	" 15..	-	-	-	-	-	-	17	25	42	10	9	
" " Eastern Townships.....	" 9..	-	-	-	-	-	-	6	19	27	52	9	
" " Montreal Counties.....	" 12..	-	-	-	-	-	-	1	10	16	27	9	
Ontario: Eastern.....	April 30..	1	-	-	-	1	6	11	14	15	46	9	
" " Central.....	" 20..	4	-	-	1	3	15	25	15	6	61	12	
" " North Western.....	" 25..	9	-	-	9	19	37	17	12	85	11	14	
" " South Western.....	" 1..	41	3	9	15	14	18	10	10	1	39	14	
" " Northern.....	May 1..	-	-	-	-	-	4	11	9	6	30	10	
Manitoba: Eastern.....	April 29..	1	-	-	-	1	9	13	3	1	26	12	
" " North Central.....	May 1..	-	-	-	-	-	16	4	4	1	25	12	
" " South Central.....	April 27..	6	-	-	6	15	10	3	3	2	30	9	
" " North Western.....	" 26..	4	-	-	4	30	16	6	6	-	52	10	
" " South Western.....	" 27..	3	-	-	-	3	21	12	7	-	40	9	
Saskatchewan: North.....	April 21..	24	-	-	2	22	38	14	6	-	58	12	
" " South.....	" 24..	7	-	-	-	7	32	17	1	-	50	13	
Alberta: North.....	" 17..	22	-	-	1	21	19	10	7	1	37	17	
" " South.....	" 10..	13	-	1	6	6	5	4	-	1	10	18	
British Columbia.....	" 14..	9	-	1	4	4	3	1	2	-	6	8	

[Continued from p. 131]

For the Maritime Provinces the period is from 9 to 10 days in May; for Ontario it is from 5 to 17 days in April and from 9 to 14 days in May; in Manitoba the period is 9 to 10 days in April and 10 to 14 days in May; in Saskatchewan it is from 12 to 13 days in April and 13 to 14 days in May; in Alberta 12 to 13 days in April and 17 to 18 days in May; in British Columbia 8 days in April and 13 days in May. May was remarkable for the coolness of the weather, which would account for the slower germination.

Table III compares the data for each province in respect of the two years 1918 and 1919.

III. Dates of Seeding and Appearance above Ground of Spring Wheat, 1918 and 1919.

A—DATES OF SEEDING.

Items.	Pr. Ed. Is.		N.S.		N.B.		Que.		Ont.	
	1918	1919	1918	1919	1918	1919	1918	1919	1918	1919
No. of records...	52	28	74	90	57	43	376	208	230	524
Earliest date seeding general.	May 6	May 9	April 18	May 1	April 20	May 1	April 15	April 27	Mar. 17	Mar. 10
No. of records seeding general.	-	-	-	-	-	-	-	-	14	40 ¹
April 1-7....	-	-	-	-	-	-	-	-	33	15
" 8-14....	-	-	-	-	-	-	12	1	76	104
" 15-21....	-	-	-	-	-	-	66	6	60	207
" 22-30....	1	-	11	11	11	7	90	27	34	62
May 1-7....	11	8	15	19	27	21	70	65	9	49
" 8-14....	34	15	38	41	17	13	118	88	4	34
" 15-21....	6	5	10	19	2	2	11	21	-	13
" 22-31....										

Items.	Man.		Sask.		Alberta.		B.C.		Canada.	
	1918	1919	1918	1919	1918	1919	1918	1919	1918	1919
No. of records...	131	213	184	164	117	84	26	17	1,247	1,371
Earliest date seeding general.	Mar 21	April 15	Mar. 20	April 1	Mar. 27	April 1	April 6	April .1	Mar. 20	Mar. 10
No. of records seeding general.	46 ²	-	14 ²	3	16 ³	11	3	2	93	56 ¹
April 1-7....	61	2	98	20	54	20	5	5	251	62
" 8-14....	23	71	49	88	40	37	7	4	207	305
" 15-21....	-	124	18	48	5	11	2	3	151	399
" 22-30....	1	14	3	4	1	2	6	2	167	129
May 1-7....	-	1	2	1	1	2	1	1	136	167
" 8-14....	-	1	-	-	-	-	2	-	213	192
" 15-21....	-	-	-	-	-	-	-	-	29	61
" 22-31....										

¹Including 2 in second week, 5 in third week and 14 in last week of March.

²Including 7 in last week of March.

³Including 3 in last week of March.

III. Dates of Seeding and Appearance above Ground of Spring Wheat, 1918 and 1919—con.

B—DATES OF APPEARANCE ABOVE GROUND.

Items.	Pr. Ed. Is.		N.S.		N.B.		Que.		Ont.	
	1918	1919	1918	1919	1918	1919	1918	1919	1918	1919
No. of records....	42	19	52	61	47	37	340	162	167	316
Earliest date of appearance above ground—	May 15	May 16	May 1	May 9	May 8	May 12	April 30	May 5	April 13	April 1
No. of records of appearance above ground—										
April 1-7....	—	—	—	—	—	—	—	—	—	3
“ 8-14....	—	—	—	—	—	—	—	—	1	9
“ 15-21....	—	—	—	—	—	—	—	—	9	16
“ 22-30....	—	—	—	—	—	—	1	—	40	27
May 1-7....	—	—	1	—	—	—	33	1	58	62
“ 8-14....	—	—	7	3	8	3	88	11	36	94
“ 15-21....	12	5	15	23	19	17	96	62	18	65
“ 22-31....	30	14	29	35	20	17	122	88	5	40
Average No. of days from seeding to appearance above ground.....	— 9	— 9	— 9	— 10	— 10	— 10	15-9	— 9	14-14	10-12

	Man.		Sask.		Alberta.		B.C.		Canada.	
	1918	1919	1918	1919	1918	1919	1918	1919	1918	1919
No. of records....	133	187	201	139	116	82	30	15	1,128	1,018
Earliest date of appearance above ground—	April 1	April 26	April 5	April 21	April 12	April 10	April 16	April 14	April 1	April 1
No. of records of appearance above ground—										
April 1-7....	1	—	2	—	—	—	—	—	3	3
“ 8-14....	4	—	2	—	1	1	—	1	8	11
“ 15-21....	31	—	24	2	18	7	5	4	87	29
“ 22-30....	45	14	82	29	52	27	8	4	228	101
May 1-7....	40	91	62	70	33	24	7	3	234	251
“ 8-14....	7	55	16	31	10	14	6	1	178	212
“ 15-21....	5	23	8	7	2	7	3	2	178	211
“ 22-31....	—	4	5	—	—	2	1	—	212	200
Average No. of days from seeding to appearance above ground.....	15-20	9-12	15-20	12-13	14-17	12-17	11-13	8-13	14-13	10-12

It will be observed from Table III that the earliest record in 1919 of seeding being general was March 10, this being in Ontario. Last year the earliest record was March 20 in Saskatchewan. Seeding was general however about a week or ten days later in 1919 than in 1918. The earliest date of appearance above ground was April 1 for both years, the record for this year applying to Manitoba and that of last year to Ontario. The largest number of records of appearance above ground was in the first and second weeks of May for this year and during the last week of April and first week of May for 1918.

PRODUCTION OF FLAX FOR FIBRE IN ONTARIO 1918.

Information furnished by the DIVISION OF ECONOMIC FIBRE PRODUCTION, Central Experimental Farm, Department of Agriculture, Ottawa.

There were 20,000 acres grown for fibre production in Ontario last year, giving an average of 310 lb. of pure line fibre per acre, valued at 55 to 70 cents per lb., according to grade. The fibre was of fair quality, but short and not quite so uniform as the 1917 crop. There were 900 tons of tow, which was graded at prices ranging from 8 to 20 cents per pound. Under an Order in Council dated October 23, 1918, all Canadian seed of fibre variety, amounting to 110,000 bushels, was commandeered and shipped to Ireland, the price realized being \$27.50 per sack of 182 lb.

The following is an approximate estimate of the area, production, and value of flax grown for fibre in Ontario for each of the four years 1915-18:—

Description.	1915	1916	1917	1918
Area..... acres	4,000	5,200	8,000	20,000
Yield of fibre per acre..... lb.	200	57	350	310
Total yield of fibre..... tons	800	300	1,400	3,100
Total yield of tow..... "	80	175	—	900
Yield of seed per acre..... bush.	12	48	9	8 ¹
Total yield of seed..... "	48,000	25,000	72,000	110,000
Value of fibre per ton..... \$	400	600	1,100	350
Total value of fibre..... \$	320,000	180,000	1,540,000	1,085,000
Total value of tow..... \$	2,800	5,000	—	270,000
Value of seed per bush..... \$	1.60	3	5.50	8.50 ¹
Total value of seed..... \$	76,800	75,000	396,000	930,769 ¹

¹ Seed of fibre quality shipped to Ireland.

In 1916 there were, in addition, about 800 tons of flax straw, valued at \$15 per ton, or \$12,000. The total value of the products for 1918 is about \$2,285,750, exclusive of the value of seed not of fibre quality.

DOMINION EXPERIMENTAL FARMS AND STATIONS.

Central Farm, Ottawa.—May has been an exceptionally wet month, with less sunshine than usual and the thermometrical readings averaging slightly lower than normal. The highest temperature recorded is 84, the lowest 32, and the mean 55.31, while a year ago the maximum was 85.8, the minimum 28 and the mean 57.31. Rain fell on eighteen days, the precipitation aggregating 3.77 inches; the total in May, 1918, was 1.80 inch, distributed over eleven days; and the average for May the eight previous years was 2.87 inches. The bright sunshine averages 6.78 hours a day as against 7.34 hours a day for this period last year.

In the Ottawa district, the spring season, on the whole, probably, has been about ten days later than usual in so far as seeding operations are concerned. At the Central Farm, all the grain was sown during the first ten days of the month, and, despite much wet weather, by the 31st all the hoed crops have been planted with the exception of a small acreage of the land allotted to Indian corn. The prospects for a good hay crop in this section are excellent.

Charlottetown, P.E.I.—R. D. L. Bligh, in charge, reports:—"May, with the exception of the last week, has been exceedingly fine and well suited to farm operations. The closing week has been exceptionally cool, windy and wet. Seeding of wheat was general by the 18th, and the month closed with 75 p.c. of the grain sown. Pasture and hay give promise of exceptional yields. Fruit, although backward, gives fair promise of a good crop. The precipitation, totalling 2.91 inches, has been well distributed, and has been beneficial for all crops. Sunshine has been recorded in 26 days, rainfall on ten, and frost on seven days. Prices for farm produce are exceedingly high, eggs selling on the market at the close of the month at 47 cents a dozen, potatoes at from 75 cents to \$1 per bushel, and oats at from 85 to 95 cents a bushel, hay at \$30 per ton, and young pigs at from \$7 to \$10 each."

Kentville, N.S.—W. S. Blair, Superintendent, reports:—"The mean temperature for May is 50.17 as compared with 48.7 as the average for the corresponding month in the five previous years. There has been rain on eleven days, aggregating, however, only 2.41 inches. The month, up to the 25th, was almost continuously fine, with only light showers; but a rainfall of 1.13 inch, on the 25th and 26th, did much good. The average May precipitation for the five previous years was 1.97 inch. The sunshine amounts to 200.4 hours, as compared with 172.7 hours as the average for the same period for the five years previous. Frost was recorded on the 7th, 9th, 10th, 15th, 16th and 17th. The weather, on the whole, has been bright, and, although the temperature has not been high at any one time, the average, as indicated above, has been about two degrees higher than for the five previous years. Conditions have been favourable for putting in crops, and there has been little lost time from rains. The rain on the 25th and 26th materially set back work on wet lands, but, on the whole, much more crop has been put in during May than for some years past. The seasonable showers during the latter part of the month have brought on grass and clover very rapidly, and indications are that there will be an abundant crop. Fruit trees give promise of the largest fruit bloom known, and all trees have come through the winter in excellent condition."

Nappan, N.S.—W. W. Baird, Superintendent, reports:—"The greater part of May has been fine, but cool. From the 1st to the 5th, conditions were unsettled, light snow flurries on the 1st being followed by showery and dull weather. From the 6th to the 24th, it was fine and clear, from the 25th to the 29th very wet and cold, and the 30th and 31st have been fine, but extremely cold. Very

little in the way of farm operations could be carried on during the latter part of May, owing to the ground being too wet and weather conditions generally, unfavourable. With so much spring ploughing having to be done, the present indications are that a very large percentage of the grain intended for the heavier and wetter soils will be seeded very late. On the drier and more sandy land and on underdrained fields, seeding operations made most satisfactory progress from the 5th to the 25th. Notwithstanding the cold and other unfavourable weather conditions, grasses and clovers have made a splendid start, and the present indications point to a fairly good hay crop in this district. Market demands for all farm produce have remained good throughout the month. The work that has engaged attention at the Experimental Farm, other than caring for the live stock, poultry and bees, has included picking over stecklings, repairing implements, hauling supplies, pruning, making hot-beds, crushing grain, ploughing for stecklings, planting stecklings, sowing variety test plots of oats, wheat and barley, and also field lots of oats, wheat and barley, and cleaning up in general."

Fredericton, N.B.—W. W. Hubbard, Superintendent, reports:—"May has been fairly dry and cool with considerable wind from the northeast and cloudiness. Grasses and clovers grew well, and cattle were on pastures generally by the 22nd, which is fully a week earlier than the average. Farm work along the St. John river is well advanced, seeding and potato planting being practically finished on the upper part of the valley. In the eastern section of the province, there has been much more precipitation and, consequently, seeding is much delayed. At the Experimental Station, fall grains are well advanced, rye being thirty inches high and beginning to head out. Spring wheat and mangolds are well up, while oats are just coming up. Live stock throughout this part of the country is rather thin, on account of the scarcity of hay and feed stuffs. There has been a scarcity of early pigs, which are in great demand; but there promises to be an abundance of later litters to fill the needs of buyers. The milk flow as yet is small; and dairy products are in great demand."

Ste. Anne de la Pocatière, Que.—Jos. Begin, Superintendent, reports:—"The weather during May has been abnormally windy and cool. The precipitation amounts to only 3.76 inches, compared with 4.24 inches last year. The highest temperature registered is 78.2, the lowest 30.6, and the mean 46.1, compared with 83.2 and 30.6, respectively, and a mean temperature of 49.4 in May a year ago. The bright sunshine averages 7.56 hours a day. At the beginning of the month, the land was still quite wet, and the almost constant cool weather which has prevailed has so retarded cultural operations that, by the 31st, only about 45 p.c. of grain seeding has been done. The first sowing took place on the 8th, on well drained land, and on the 15th seeding was begun on other soils. As usual, the first grain was put in at the Station, the farmers beginning only on the 16th. The wet weather resulted in seeding not becoming general until the 26th. The last days of the month have

been decidedly warm and dry and, although vegetation was slow in starting, it is now making rapid growth. Clover came through the winter all right, and the prospects are more promising than last year at this period, nor do fruit trees seem to have suffered from frost. Hay is no longer obtainable, and even sold at \$38 per ton. Live stock has been suffering a little from lack of feed, and the animals will have to go to pasture rather early."

Cap Rouge, Que.—G. A. Langelier, Superintendent, reports:—"May was warmer, drier and brighter than the corresponding month, averaging the last seven years, the figures being, respectively, 51.05 and 50.29 for mean temperature, 3.49 and 4.19 inches for precipitation, and 214.7 and 191.3 hours for sunshine. Work at the Station has included the care of live stock, poultry, bees, and the putting in of grain and also of vegetables and flowers, besides attending to roads, fences and the ever recurring repairs to buildings. At the end of the month, all cereals are sown, but no corn or Swedes are in the ground yet. The season is considered backward, and, if the autumn frosts come early, the yields may be low for certain crops. During May hay has been selling at the unheard of price of \$42 to \$45 per ton, and the live stock industry is now passing through a period of unrest which may affect it quite adversely if feeds keep at present figures."

Lennoxville, Que.—J. A. McClary, Superintendent, reports:—"The highest temperature recorded during May is 77, the lowest 25, and the mean temperature 51.75, compared with 87 and 27 and a mean temperature of 55.87 last year. The precipitation totals 2.99 inches, while a year ago it amounted to 2.32 inches. The bright sunshine recorded amounts to 213.8 hours, compared with 200.5 hours a year ago and 136 hours in May, 1917. The excessive amount of rain the latter part of April and first part of May has resulted in seeding operations being a little later than usual, although the fine weather during the last ten days of the month has enabled farmers to get the greater part of their seeding finished. Clover and grasses seem to be coming on very well, with every prospect of a good hay crop this season. The poultry work, which has only been started this spring at the Lennoxville Station, is being got well under way, much interest being shown in it by the farmers and the townspeople of this district. The breed of hens with which work is being carried on at present is the Barred Plymouth Rock."

Brandon, Man.—W. C. McKillican, Superintendent, reports:—"May has a higher mean temperature than the corresponding period for at least eight years. This is due to an extremely hot spell during the last of the month, which included six successive days when the maximum exceeded 90. The earlier part of the month was cool. The precipitation totals 1.60 inch, practically all of which fell in the first part of the month. The latter part of the month has been very dry, and the drought has been accentuated by the heat. Wheat seeding was completed in normal time. Oats and barley have been sown, except a small proportion. Germination has been good and

conditions generally were favourable until the hot spell, which caused some injury. However, the crop is well rooted, and, if rain comes early in June, will quickly revive. On the Experimental Farm, the seeding of grain, corn and field roots has been completed."

Indian Head, Sask.—N. D. Mackenzie, Acting Superintendent, reports:—"May came in cool and cloudy, with considerable north and northwest wind. Heavy showers were experienced on the 2nd, 10th, 11th and 16th. The temperature became higher on the 17th, and the weather has remained clear and hot to the end of the month. Seeding was practically completed throughout this district by the 20th. Cutworms, wireworms and grasshoppers have been reported as doing considerable damage in several districts. All crops are well advanced; but rain will be required early in June, as the continued hot winds have dried out the land to a great extent. The work on the Experimental Farm has included seeding, ploughing, packing and general farm operations, caring for grounds, repairing fences and looking after the live stock and poultry."

Rosthern, Sask.—Wm. A. Munro, Superintendent, reports:—"May this year has been the driest on record, and, with the exception of 1917, registers the highest temperature on record for the month. Added to this, almost continuous high winds were experienced. This combination of weather conditions has so militated against the crops of the district that in many cases there are none. This applies particularly to crops sown on last year's summer fallow and fall ploughing where the soil had been worked down to a fine condition. Soil drifting on the Experimental Station has been very bad on the land recently purchased as an addition to the farm, but there has been no drifting on the quarter section that has been continuously worked as a part of the Station since 1909. The only explanation seems to be that the land that is not drifting has had grass at some time in the rotation during the past ten years and has also had an application of manure at one time or another, whereas the land recently purchased has never grown grass since it was broken from the prairie, from fifteen to nineteen years ago, nor has it had any manure. The forty-six steers purchased in November last for approximately \$4,800 were sold early in May for approximately \$9,200. Twenty-three, fed hay and mixed oat and barley chop, brought \$15.30 per 100 lb. and the twenty-three fed the same but with the addition of 10 lb. of turnips per steer a day brought \$15.80 per 100 lb. This price was paid on weights at the corral at the Station."

Scott, Sask.—M. J. Tinline, Superintendent, reports:—"The mean temperature for May is the highest on record for this month at the Scott Station. The rainfall has been light, but sufficient for immediate crop requirements. Germination of all seeds has been unusually prompt, and seeding generally was completed early. Crops sown in good season have grown rapidly. Various trees and flowering shrubs bloomed early and vegetation of all kinds has made good progress. Wind storms have been prevalent, particularly during the latter part of the month, and have destroyed crops in some districts and done lesser injury in many other sections."

Lacombe, Alberta.—B. C. Milne, Assistant to the Superintendent, reports:—"A heavy snowstorm occurred during the 2nd and 3rd of May, and, while it was welcomed for the moisture supplied, spring work in central Alberta was delayed from ten to twelve days. A very warm wave followed the storm, and growth, consequently, became rapid. Unfortunately, a number of hot, dry winds did some damage to crops on the lighter lands. Crops, on the whole, give good promise, the areas affected by cutworms and winds being comparatively small, and a rain of 0.6 of an inch at the end of the month has supplied sufficient moisture for the immediate needs of cereals. Losses in live stock in central Alberta, resulting from the snowstorm at the beginning of the month, have not been very heavy. Odd farmers throughout the district lost from one to five head of stock, but in the open country, south and east of here, more severe losses are reported. A good growth of grass has now followed, and all classes of live stock are doing well."

Lethbridge, Alberta.—W. H. Fairfield, Superintendent, reports:—"During May, the precipitation has not been as great as might be desired, amounting in all to 1.75 inch, while the average of this month for the last seventeen years is 2.86 inches. At the end of May, the crops in many districts are looking well; but in some localities they have suffered severely from soil drifting and in some districts cutworms have done considerable damage. It is too early to estimate the amount of damage that will result from the latter, but quite a few farmers have been compelled to re-seed. If abundant rains are experienced in June, an excellent crop should be harvested, but the outlook at the present time, although good, is extremely uncertain, owing to the fact that there is no reserve moisture in the subsoil. No reports of serious damage by grasshoppers have reached the Station although it would seem that they are in evidence in some localities."

Invermere, B.C.—R. G. Newton, Acting Superintendent, reports:—"The weather during May has been dry and cold, and though bright sunshine was recorded on every day of the month, and averages $6\frac{3}{4}$ hours a day, the prevalence of cold winds and the absence of rain have rendered conditions unfavourable for plant growth, and the season is very backward. The total precipitation is 0.85 of an inch against an average for the preceding five years of 1.83 inch, the former being the lowest record for May since the Station was established. Temperature readings have been somewhat lower than the average, and night frosts have been recorded on nine days during the month. A frost on the 31st caused some damage in the district. At the Experimental Station, seeding of all grains was completed by the 2nd, and irrigation was commenced on the 5th. An experiment with fertilizers was inaugurated, ten plots of potatoes being planted and treated with different mixtures for this investigation. In the poultry work, the results of incubation have been satisfactory, and the mortality among the young chicks hatched during the month has been again very low. Five returned soldiers have been received at the Station for practical training by arrangement with the Soldier Settle-

ment Board, and are being instructed in horticulture, poultry and bee management, and general farm work."

Summerland, B.C.—R. H. Helmer, Superintendent, reports:—"During May no frost has been registered, although the thermometer kept down very close to freezing point. High, cold winds have prevailed during the month. No rain of any consequence has fallen and crops are needing moisture where no irrigation is practised. Creeks have been very high this year, and there should be an abundance of water for irrigation in the valley this summer. Crops generally are promising. The apple yields, if the June drop is not too heavy, should be very good. Apricots are patchy, while cherries are not likely to be as good as was at first thought. Hay is very scarce in this district and the price is very high. The first crop of alfalfa is now being cut."

Agassiz, B.C.—W. H. Hicks, Superintendent, reports:—"The weather during May has been cool, damp and cloudy. Although the precipitation, 4.71 inches, is only slightly above the average, the cool weather and lack of sunshine have not been conducive to maximum crop growth. The sunshine recorded aggregates considerably less than that of May last year. Hay and pasture crops never gave promise of better returns. All other crops, especially cereals, potatoes and roots, are very late. Warm weather is necessary to rush growth along. At the close of the month, most of the crops are planted, with the exception of corn. The dairy cows and young stock in the district are looking remarkably well and are giving satisfactory returns for so early in the season. Good prices prevail for dairy and poultry produce. At the Experimental Farm, the incubation work is completed and a nice flock of chicks is being raised. The sheep have been shorn and dipped during the month, yielding on the average a heavier crop of wool than in any previous year."

Sidney, Vancouver Island, B.C.—Lionel Stevenson, Superintendent, reports:—"The climatic conditions during May have been very favourable to the growth of autumn-sown and established crops. The generally cool weather, with more than average rainfall, aided considerably in the preparation of land for roots and corn. An average acreage of roots and corn has been seeded. At the Experimental Station, the first cut of alfalfa has been harvested in good condition. New seedings of alfalfa have been made. Small fruits have developed well. Strawberries promise to yield heavier than for a number of years, while currants and gooseberries are up to the average in development. Orchard fruits have set well and all indications are for a full crop. The live stock of the district is in good condition, and there is abundant good pasturage at the close of the month. All live stock are in good demand, prices being higher than in May, 1918. Poultry are in good condition, and an excellent demand for laying stock and hatching eggs has continued through the month."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of May are given in the following table:—

Meteorological Record for May, 1919.

Experimental Farm or Station at—	Degrees of Temperature F.			Precipitation in inches.	Hours of Sunshine.	
	High-est.	Low-est.	Mean.		Pos-sible.	Actual.
Ottawa, Ont.....	84.0	32.0	55.31	3.77	462	210.3
Charlottetown, P.E.I.....	74.0	27.0	47.90	2.91	465	215.2
Kentville, N.S.....	75.0	27.0	50.17	2.41	461	200.4
Nappan, N.S.....	75.0	24.0	48.40	2.27	463	197.8
Fredericton, N.B.....	77.0	28.0	54.00	3.70	464	213.2
Ste. Anne de la Pocatière, Que.....	78.2	30.6	46.10	3.76	469	234.5
Cap Rouge, Que.....	80.0	29.2	51.05	3.49	468	214.7
Lennoxville, Que.....	77.0	25.0	51.75	2.99	462	213.8
Brandon, Man.....	95.7	11.0	55.70	1.60	478	247.1
Indian Head, Sask.....	93.0	22.0	54.09	1.39	481	241.8
Rosthern, Sask.....	97.0	21.7	55.86	0.86	494	295.7
Scott, Sask.....	92.5	18.8	53.38	0.88	492	285.1
Lacombe, Alberta.....	88.9	12.4	48.08	3.14	489	231.0
Lethbridge, Alberta.....	89.0	18.5	52.01	1.75	477	215.5
Invermere, B.C.....	83.0	26.0	49.30	0.85	481	209.7
Summerland, B.C.....	78.0	33.0	55.89	0.71	478	207.4
Agassiz, B.C.....	78.0	32.0	52.06	4.71	476	156.6
Sidney, Vancouver Island, B.C.....	71.0	36.0	51.70	1.18	473	251.5

Ottawa, June 13, 1919.

E. S. ARCHIBALD,
Director Experimental Farms.

CROP REPORTS FROM OTHER COUNTRIES.

England and Wales.—The Board of Agriculture reports (June 1) that the dry weather was generally favourable for farming operations and enabled arrears of work to be greatly reduced. Rain, however, is now badly needed for the grain crops, fruit and grass. Wheat generally looks well, particularly the autumn sown, but spring sown and that on ploughed grass land is not so satisfactory, considerable damage having been done by wireworm. Oats have also suffered from the same cause and re-sowing has in some districts been necessary. The late-sown oats have also been adversely affected by the drought. Barley, though backward, generally looks well, especially the early sown, and all grain crops would be much benefited by rain. Beans and peas are promising, though the former are short in the haulm. The area under barley is rather greater than last year, but that under oats is slightly less. Potatoes are backward, and there is still some planting to be done, and much of the main crop is not yet showing above the ground. The early varieties look healthy and promising, but need rain. The area under potatoes is estimated to be about 15 p.c. less than last year. The sowing of mangolds was backward, but is now nearly completed. The earlier sown germinated well, but now require rain, and fly is reported to be troublesome. Turnip sowing is now in progress, but is very backward, and in many districts rain is needed for the preparation of the seedbed. The weather has been very favourable for hops in Kent, and the plants are healthy and have made excellent growth. The aphid has made its appearance

in many instances. The area has increased by about 5 p.c. since last year. The prospects for all classes of fruit are good, though insect pests are now proving troublesome and rain would be welcome. Both orchard fruit and small fruit promise to exceed the average. The area intended for hay, whether from seeds or meadow, is slightly less than last year—about 2 p.c. It would have been much benefited by rain, and the yield is expected to be for both kinds about 10 p.c. below the average. Pastures are now becoming bare and require rain. Live stock are generally healthy and have done well during the month. The supply of labour is still short, especially of skilled hands, but in some districts the supply of casual labour has been sufficient to meet the demands.

India.—A special wheat forecast was issued by the Indian Department of Statistics on April 22, and it relates to 98·6 p.c. of the total wheat acreage of India. The total area under wheat for the season of 1918-19 is now reported as 23,425,000 acres, as compared with 35,497,000 acres last year, a decrease of 12,072,000 acres, or 34 p.c. The estimated yield for 1918-19 is 278,021,000 bushels, as compared with 379,829,000 bushels, the finally revised total of 1917-18. The decrease in the estimate of yield this year is due to smaller areas having been sown owing to the failure of the monsoon and to the prevalence of influenza at the sowing time.

FROM BROOMHALL'S CORN TRADE NEWS:—

France.—On June 1st growth was nearly up to normal. In the middle of June the country was beginning to suffer from drought, and the official condition of growing crops was about fair.

Germany.—At the end of May grain crops were reported to be up to the average as regards condition.

Spain.—On June 1st the weather was fine and crops promised well. Later excellent rains fell and improved the prospects of the wheat crop considerably. General indications pointed to a good crop. Harvest outlook is bright.

Greece.—Crop prospects were bad on June 1st.

Italy.—On June 1st reports of the wheat and corn crops continued favourable. In the middle of June good harvest prospects for wheat were still maintained. An out-turn of 188,000,000 bushels of wheat against 176,000,000 bushels last year is expected.

Rumania.—In the first part of June the weather was not favourable and the yield of wheat was uncertain. It was hoped that the crop would yield sufficient for home consumption.

Bulgaria.—Early in June the out-turn of wheat was expected to be moderate. Bad weather had delayed the harvest for a fortnight.

North Africa.—Harvest prospects are fairly good generally, although there have been some untimely rains.

Australia.—The drought was broken late in May, and further good rains fell during the first part of June. A reduction in the wheat acreage is expected.

Argentina.—The weather was fine and favourable for the new crops in the first part of June.

United States.—The Crop Reporting Board of the U.S. Department of Agriculture states (June 9) that the total area sown to wheat for 1919 is 71,526,000 acres, as compared with 59,110,000 acres in 1918, an increase of 12,416,000 acres, or 21 p.c. The acreage of 1918 was 14,021,000 more than in 1917, a ratio of 31 p.c.; so that within two years the wheat acreage of the United States has increased by 26,437,000 acres, or 58 p.c. The area sown to oats for 1919 is 42,365,000 acres, or 4.6 p.c. less than last year, to barley 8,899,000 acres, or 8.1 p.c. less, to rye 6,576,000 acres, or 4.8 p.c. more, and to hay 71,224,000 acres equal to last year. The following table gives the condition and indicated yields for 1919 with comparative figures of 1918:

Crops.	Condition in per cent of normal.				Yield per acre.			Total yield in millions of bushels.	
	June 1, 1918	May 1, 1919	June 1, 1919	June 1 (10-yr average).	1918 (final)	1919 ¹	1913-1917 average	1918	1919 ¹
	p.c.	p.c.	p.c.	p.c.	bush.	bush.	bush.	bush.	bush.
Winter wheat.....	83.8	100.5	94.9	80.5	15.2	18.2	16.1	558	893
Spring wheat.....	95.2	—	91.2	93.7	16.0	15.2	12.9	359	343
All wheat.....	87.7	—	93.8	85.1	15.5	17.3	15.0	917	1,236
Oats.....	93.2	—	93.2	89.4	34.6	34.1	32.7	1,538	1,446
Barley.....	90.5	—	91.7	90.5	26.5	26.0	25.8	256	232
Rye.....	83.6	95.4	93.5	88.8	14.4	16.3	16.0	89	107
					ton	ton	ton	tons	tons
Hay.....	89.0	94.3	94.1	87.3	1.27	1.63	1.41	90.4	116
Pasture.....	92.5	90.3	97.4	89.3	—	—	—	—	—

¹Interpreted from condition reports.

The prices on June 1, 1919, as compared with those of the same date last year, placed within brackets, are reported as follows in cents per bushel :—Wheat 228.4 (202.5), oats 71.2 (78.1), barley 109.2 (135.4), rye 143.7 (187.6), per ton. Hay, \$23.30 (\$17.13).

THE WEATHER DURING MAY.

The Dominion Meteorological Office reports that the mean temperature for May was above the normal over the entire western provinces and in the Lake Superior district, and slightly below over the greater portion of British Columbia. Positive departures amounted to about 6° in some sections of Saskatchewan and Manitoba. From the Lower Lake region eastward to the Maritime Provinces the departures from normal were very small, being below in the more central parts of Ontario and northern Quebec; elsewhere above.

The most marked features of the precipitation were the lightness of the rainfall in Saskatchewan, and the excess in southern and eastern Ontario and the Maritime Provinces; elsewhere departures from the normal amount were comparatively small.

PRICES OF AGRICULTURAL PRODUCE, 1919.

I. Weekly Range of Cash Prices per bushel of Canadian Grain at Winnipeg and Fort William, 1919.

Grain and Grade.	June 7.		June 14.		June 21.		June 28.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—								
No. 1 Nor.....	2 24½	—	2 24½	—	2 24½	—	2 24½	—
No. 2 Nor.....	2 21½	—	2 21½	—	2 21½	—	2 21½	—
No. 3 Nor.....	2 17½	—	2 17½	—	2 17½	—	2 17½	—
No. 4.....	2 11½	—	2 11½	—	2 11½	—	2 11½	—
No. 5.....	1 99½	—	1 99½	—	1 99½	—	1 99½	—
No. 6.....	1 90½	—	1 90½	—	1 90½	—	1 90½	—
Feed.....	1 83	—	—	—	—	—	—	—
Oats—								
No. 2 C.W.....	0 78½—0 81½		0 77½—0 80½		0 73½—0 79½		0 75½—0 77½	
No. 3 C.W.....	0 74½—0 77½		0 75½—0 76½		0 75½—0 77½		0 73½—0 74½	
No. 1 Feed Ex.....	0 74½—0 77½		0 75½—0 76½		0 75½—0 77½		0 73½—0 75½	
No. 1 Feed.....	0 73½—0 75½		0 74—0 74½		0 73½—0 76½		0 72—0 73½	
No. 2 Feed.....	0 68½—0 70½		0 69—0 69½		0 69½—0 71½		0 68½—0 69½	
Barley—								
No. 3 C.W.....	1 33½—1 37½		1 29½—1 32½		1 29½—1 33½		1 26½—1 29½	
No. 4 C.W.....	1 28½—1 32½		1 24½—1 27½		1 25½—1 30½		1 22½—1 25½	
Rejected.....	1 16½—1 19		1 14½—1 20½		1 20½—1 23½		1 15½—1 20½	
Feed.....	1 16½—1 19		1 14½—1 20½		1 20½—1 23½		1 15½—1 20½	
Flax—								
No. 1 N.W.C.....	4 37—4 58½		4 59—4 83		4 75—4 78		4 73—5 00	
No. 2 C.W.....	4 47—4 55½		4 54—4 76		4 68—4 72½		4 68—4 92	
No. 3 C.W.....	4 06—4 36		4 38—4 54½		4 44—4 48		4 43—4 60	

II. Monthly Range of Prices per bushel of Grain at Selected Markets in the United States, 1919.

(From the Monthly Crop Report of the U.S. Dept. of Agriculture.)

Grade and Market.	February.		March.		April.		May.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat, Red Winter, No. 2—								
St. Louis.....	2 35—2 43		2 36½—2 63		2 40—2 78		2 45—2 78	
Chicago.....	2 23—2 36		2 35½—		2 58—2 68		2 68—2 78½	
New York (f.o.b. afloat).....	2 37—2 38		2 38—		2 38—		2 38—	
Corn, No. 2, mixed—								
St. Louis.....	—	—	1 57—1 58		1 61—1 66		1 66—1 80	
Corn, No. 2—								
Chicago.....	1 22—1 38		1 31½—1 64		1 55½—1 72		1 60½—1 85	
Oats, No. 2—								
St. Louis.....	0 59—0 63½		0 61½—0 69½		0 67½—0 73		0 67—0 72	
Chicago.....	0 55½—0 64		0 58½—0 67½		0 66½—0 75½		0 67½—0 74½	
Rye, No. 2—								
Chicago.....	1 45—1 47		1 45—1 76½		1 64½—1 81½		1 45½—1 73	

III. Range of Prices of Imported Grain and Flour at British Markets, 1919.

Mark Lane.	May 5-26.		Liverpool.	May 6-27.
Wheat—	\$ c.	\$ c.	Wheat—	\$ c.
Canadian No. 1.....	2 51	—	Nor. Man. No. 1.....	2 52 ³ / ₈
Canadian No. 2.....	2 48	—	Nor. Man. No. 2.....	2 52 ³ / ₈
American Spring.....	2 51	—	Man. No. 4.....	2 52 ³ / ₈
American Hard Winter.....	2 51	—	Red Winter No. 1.....	2 52 ³ / ₈
American Red Winter.....	2 48	—	Spl. Red Winter, new.....	2 52 ³ / ₈
Californian.....	2 51	—	Australian.....	2 52 ³ / ₈
Australian.....	2 53 ⁷ / ₈	—		
Indian.....	2 53 ⁷ / ₈	—		
Argentine.....	2 51	—		
Oats—				
Canadian.....	1 62 ⁷ / ₈	1 65 ¹ / ₂		
American.....	1 39 ³ / ₈	1 42 ¹ / ₈		
Argentine.....	1 60 ¹ / ₄	1 62 ⁷ / ₈		
Flour (per 280 lb.)—				
Canadian Spring.....	11 25	—		
American Spring.....	11 25	—		
American Winter.....	11 25	—		
Australian.....	11 25	—		

IV. Average Prices of British Grown Grain, 1919.

(From the "London Gazette," as published pursuant to s. 8 of the Corn Returns Act, 1882.)

Week ended	Wheat.		Barley.		Oats.	
	per quarter.	per bushel.	per quarter.	per bushel.	per quarter.	per bushel.
	s. d.	\$ c.	s. d.	\$ c.	s. d.	\$ c.
May 3.....	73 2	2.834	62 8	1.829	48 7	1.287
" 10.....	73 2	2.834	63 1	1.842	47 5	1.256
" 17.....	73 3	2.836	62 4	1.820	47 11	1.270
" 24.....	73 2	2.834	62 7	1.827	47 11	1.270
" 31.....	73 3	2.836	62 7	1.827	48 3	1.279
Average.....	73 2	2.834	62 8	1.829	48 0	1.272

V. Monthly Prices of Imported Cheese, Butter, Bacon, and Hams at British Markets, 1918 and 1919.

DECEMBER, 1918 TO MARCH, 1919.

Market.	Cheese.	Butter.	Bacon.		Hams.		
			Canadian sides.	Canadian Cumberland cut.	American long cut.	American short cut.	Canadian long cut.
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Bristol.....	35 49	54 75	40 19	39 65	38 78	38 78	-
Liverpool.....	35 49	54 75	40 19	39 65	38 78	38 78	-
London.....	35 49	54 75	40 19	39 65	38 78	38 78	-
Glasgow.....	35 49	54 75	38 35	38 70	36 93	36 93	36 93

APRIL, 1919.

Bristol.....	34 44	54 75	40 19	-	38 78	-	-
Liverpool.....	34 44	54 75	40 19	-	38 78	-	-
London.....	34 44	54 75	40 19	-	38 78	-	-

MAY, 1919.

Bristol.....	31 47	54 75	40 52	-	38 89	-	-
Liverpool.....	31 47	54 75	39 76	-	38 24	-	-
London.....	31 47	54 75	41 06	-	39 11	-	-
Glasgow.....	31 47	54 75	39 11	38 45	38 24	37 80	38 67

STATISTICS OF DAIRY FACTORIES, 1917.

The complete bilingual Report on the Dairy Factories of 1917, forming Part II of the Census of Industry, 1917, and dated December 31, 1918, has now been issued from the press. It consists of 102 pages, with eleven main tables and an Introduction with six tables. The preliminary figures of the Report were published in the Monthly Bulletin of December last (Vol. 11, No. 124, p. 344), and these remain substantially as then published. The final Report now places the total production of creamery butter in 1917 at 87,526,939 lb. of the value of \$34,274,218, and of factory cheese at 194,904,336 lb. of the value of \$41,180,623. Miscellaneous dairy products were sold in 1917 to the value of \$18,424,485, making the total value of the products of dairy factories, in 1917, to be \$93,879,326. Copies of the complete Report may be obtained, while the supply lasts, on application to the Dominion Bureau of Statistics, Ottawa.

PUBLICATIONS

OF THE

Department of Trade and Commerce

ANNUAL REPORT OF THE DEPUTY MINISTER.

MAIL SUBSIDIES AND STEAMSHIP SUBVENTIONS (Annual).

BOARD OF GRAIN COMMISSIONERS FOR CANADA (Annual).

RULES AND REGULATIONS OF THE BOARD OF GRAIN COMMISSIONERS (Annual).

LIST OF LICENSED ELEVATORS, ETC.

GRAIN INSPECTION IN CANADA, (1914).

WEEKLY BULLETIN, containing Reports of Trade Commissioners and other Commercial Information.

PATENT OFFICE RECORD (WEEKLY).

RULES AND FORMS OF THE CANADIAN PATENT OFFICE.

CANADA AND THE BRITISH WEST INDIES (1915).

CANADA THE COUNTRY OF THE TWENTIETH CENTURY (1915) 75c., \$1.00.

HANDBOOK FOR EXPORT TO SOUTH AMERICA (1915).

TRADE WITH CHINA AND JAPAN (1914).

REVIEW OF COMMERCIAL INTELLIGENCE SERVICE (1916).

RUSSIAN TRADE (1916).

DIRECTORY OF RUSSIAN IMPORTERS (1915).

THE GERMAN WAR AND ITS RELATION TO CANADIAN TRADE (1914).

TOY MAKING IN CANADA (1916).

THE TIMBER IMPORT TRADE OF AUSTRALIA (1917).

FOOD INSPECTION BULLETINS.

TRIAL SHIPMENT OF WHEAT, from Vancouver via the Panama Canal to the United Kingdom.

GAS AND ELECTRICITY (Annual).

WEIGHTS AND MEASURES (Annual).

For List of Publications of the Dominion Bureau of Statistics, see page iv of cover.

PUBLICATIONS

OF THE

DOMINION BUREAU OF STATISTICS.

THE CANADA YEAR BOOK, 1918; with Map of Canada and Newfoundland, a Statistical Summary of the Progress of Canada, Frontispiece and numerous other illustrations. (Jubilee Volume). pp. 1-xvii, 1-686.

Contents: I The Story of Confederation, by Sir JOSEPH POPE, K.C.M.G., C.V.O. I.S.O., Under Secretary of State for External Affairs, Ottawa, with 2 illustrations; II Chronological History of Canada, 1497-1918; III Fifty years of Canadian Progress, 1867 to 1917, by ERNEST H. GODFREY, F.S.S., Editor, Dominion Bureau of Statistics, Ottawa; IV Physical Characteristics of Canada, including Geographical Features; Economic Geology in Canada, 1918, by WYATT MALCOLM, Department of Mines, Ottawa; V Area and Population; VI Education; VII Climate and Meteorology, including The Climate of Canada since Confederation, by Sir FREDERIC STUART, Director, Dominion Meteorological Service, Toronto; VIII Production: IX Trade and Commerce; X Transportation and Communications; XI Labour; XII Finance; XIII Administration; XIV Legislation in 1917 and 1918 and Principal Events of the Year 1918; XV Extracts from the Canada Gazette, 1917 and 1918.

THE CANADA YEAR BOOK. Second Series 1905-1917. [1910, 1913 and 1916-17, out of print.]

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. Nos. 1 to XIX.

REPORT OF THE FIFTH CENSUS OF CANADA, 1911.

Vol. I, 1912. Areas and Population by Provinces, Districts and Subdistricts with introduction. Tables I to XV, pp. i-viii, 1-623. [Out of print.]

Vol. II, 1913. Religions, Origins, Birthplace, Citizenship, Literacy and Infirmities by Provinces, Districts and Subdistricts, with Introduction. Tables I-XLVI, pp. i-iv, 1-634.

Vol. III, 1913. Manufactures for 1910 as enumerated in June 1911, with Introduction. Table I-XX, pp. i-xvi, 1-432. [Out of print.]

Vol. IV, 1914. Agriculture, with Introduction. Tables 1-90; I-XXXV, pp. i-xcv, 1-428. Diagrams, 5 pp. [Out of print.]

Vol. V, 1915. Forest, Fishery, Fur and Mineral Production, with Introduction. Tables 1-51; I-XXVI, pp. i-l, 1-171.

Vol. VI, 1916. Occupations of the People, with Introduction. Tables 1-25; I-VI, i-xxxi, 1-469. [Out of print.]

REPORT OF THE CENSUS OF POPULATION AND AGRICULTURE OF THE PRAIRIE PROVINCES, 1916. January 12, 1918. Tables 1-54; I-XXVI, pp. i-lxiv, 1-356.

SPECIAL REPORT ON THE FOREIGN-BORN POPULATION. Abstracted from the Records of the Fifth Census of Canada, June 1911. 23 tables. 62 pp. 1915.

REPORT OF THE POSTAL CENSUS OF MANUFACTURES, 1916. pp. i-xi; 1-263, 1917.

REPORT ON THE PRODUCTION OF CREAMERIES AND CHEESE FACTORIES, 1915 and 1916, pp. 1-24, 1917. [Out of print.]

REPORT ON THE CENSUS OF INDUSTRY, 1917. Part I. (AGRICULTURAL STATISTICS); Part II. (DAIRY FACTORIES); Part III. (FISHERY STATISTICS); Part IV, Section 4 (PULP AND PAPER). Other Parts in preparation.

EXTERNAL TRADE: ANNUAL REPORT OF THE TRADE OF CANADA; MONTHLY REPORT OF THE TRADE OF CANADA.

INTERNAL TRADE: ANNUAL REPORT ON THE GRAIN TRADE OF CANADA; ANNUAL REPORT ON THE COAL TRADE OF CANADA; MONTHLY PRODUCE BULLETINS, showing stocks in warehouse, in transit, etc.

CRIMINAL STATISTICS. Annual Report for Year ended September 30, 1917. pp. i-li, 1-270.

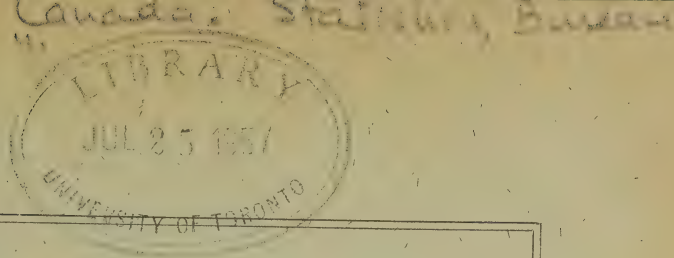
CENSUS AND STATISTICS MONTHLY, Vols. 1-10, 1908-1916; Vol. 10, Nos. 101-103, 1917. MONTHLY BULLETIN OF AGRICULTURAL STATISTICS, Vols. 10 to 12, Nos. 104-130, 1917-19.

REPORT OF CONFERENCE ON VITAL STATISTICS, June 19-20, 1918, pp. 1-48, 1918.

THE BEET SUGAR INDUSTRY, Bulletin IX, with 3 illustrations, pp. 1-75, 1909.

For list of Publications of the Department of Trade and Commerce, see page iii of cover.

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VOL. 12

No. 133

CANADA
DOMINION BUREAU OF STATISTICS
Quarterly
MONTHLY BULLETIN
OF
AGRICULTURAL STATISTICS

September, 1919.

Published by Authority of the Right Hon. Sir George E. Foster,
G.C.M.G., M.P., Minister of Trade and Commerce.



OTTAWA
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Printer to the King's Most Excellent Majesty
1919

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MONTHLY BULLETIN OF AGRICULTURAL STATISTICS

Vol. 12

OTTAWA, SEPTEMBER, 1919.

No. 133

DOMINION STATISTICIAN: R. H. COATS, B.A., F.S.S. EDITOR: ERNEST H. GODFREY, F.S.S.
DOMINION BUREAU OF STATISTICS, OTTAWA, CANADA.

FIELD CROPS OF CANADA.

Report for the month ended August 31, 1919.

The Dominion Bureau of Statistics issued to-day the following report as compiled from the returns of crop correspondents at the end of August.

PRELIMINARY ESTIMATE OF GRAIN YIELDS.

In the Prairie Provinces, the dry weather of June and July shortened the growing period and resulted in one of the earliest harvests on record. As a consequence of the drought, a large proportion of the areas sown in the West to wheat, oats, barley and rye proved either totally unproductive or was cut green. Crop correspondents throughout Canada were asked to return at the end of August their estimate of the percentages of the areas sown to these crops that were entirely unproductive or were cut green; but it is only in the Prairie Provinces that substantial percentages were reported as unproductive. These percentages range from 5 or 10 up to as much as 28 for wheat and 30 for oats in Alberta and 42 for rye in Saskatchewan. Taking these non-productive areas into account, the following preliminary estimates of total yield for all Canada are arrived at. Wheat 204,749,800 bushels, as compared with 189,075,350 bushels in 1918. Of the total for 1919, 22,875,800 bushels are fall wheat and 181,874,000 bushels are spring wheat. The estimated total yield of oats is 388,380,000 bushels, as compared with 426,312,500 bushels in 1918, of barley it is 67,542,000 bushels, as against 77,287,240 bushels in 1918; of rye the yield is 8,297,500 bushels, as compared with 8,504,400 bushels in 1918, and of flaxseed 7,368,000 bushels, as against 6,055,200 bushels in 1918.

GRAIN YIELDS OF THE PRAIRIE PROVINCES.

The estimated total production of wheat in the three Prairie Provinces (Manitoba, Saskatchewan and Alberta) is 167,836,400 bushels, as compared with 164,436,100 bushels in 1918. In Manitoba the total yield of wheat for 1919 is 42,509,100 bushels, as compared with 48,191,100 bushels in 1918; in Saskatchewan 88,221,000 bushels, as against 92,493,000 bushels, and in Alberta 37,106,300 bushels, as against 23,752,000 bushels. Oats yield 241,068,000 bushels in the three Prairie Provinces, as compared with 222,049,500 bushels in 1918; barley 47,946,000 bushels, as against 47,607,400 bushels; rye 6,009,000 bushels, as against 6,181,700 bushels, and flaxseed 7,117,000 bushels, as against 5,776,000 bushels.

CONDITION OF LATE SOWN FIELD AND FODDER CROPS.

Rain showers during August in the Prairie Provinces did much to revive the later sown field and fodder crops. Their average condition on August 31 for the whole of Canada, expressed numerically in percentages of the average yield per acre for the ten years 1909-18, was reported as follows: Peas 87, beans 93, buckwheat 95, mixed grains 87, corn for husking 89, potatoes 91, turnips, mangolds, etc., 99, fodder corn 97, sugar beets 83 and pasture 89.

ERNEST H. GODFREY,
Editor.

Dominion Bureau of Statistics,
Ottawa, September 18, 1919.

I. Preliminary Estimate of the Yield of Wheat, Oats, Barley, Rye and Flax, August 31, 1919, as compared with Estimate of 1918.

Field Crops.	1918.	1919.	1918.	1919.	1918.	1919.
	acres.	acres.	bush. per acre.	bush. per acre.	bush.	bush.
Canada—						
Fall wheat.....	416,615	797,750	19-00	28-75	7,942,800	22,875,800
Spring wheat.....	16,937,287	16,484,820	10-75	11-00	181,132,550	181,874,000
All wheat.....	17,353,902	17,282,570	11-00	11-75	189,075,350	204,749,800
Oats.....	14,790,336	14,754,150	28-75	26-25	426,312,500	388,380,000
Barley.....	3,153,711	3,017,920	24-50	22-50	77,287,240	67,542,000
Rye.....	555,294	565,275	15-25	14-75	8,504,400	8,297,500
Flax.....	1,068,120	1,069,330	5-75	7-00	6,055,200	7,368,000
P. E. Island—						
Wheat.....	30,352	30,800	20-00	22-50	606,000	693,000
Oats.....	169,729	171,000	34-50	38-75	5,839,000	6,626,000
Barley.....	5,672	5,300	28-50	30-50	162,000	162,000
Nova Scotia—						
Wheat.....	32,737	31,940	22-25	22-75	728,000	727,000
Oats.....	145,036	147,600	37-25	38-00	5,403,000	5,609,000
Barley.....	11,571	11,500	30-00	29-75	347,000	342,000
Rye.....	531	480	14-50	18-00	7,700	8,600
New Brunswick—						
Wheat.....	49,453	43,060	19-00	19-00	940,250	818,000
Oats.....	224,442	225,370	31-50	33-50	7,051,450	7,550,000
Barley.....	6,601	6,450	24-75	25-75	163,140	166,000
Rye.....	308	310	16-25	22-50	5,000	6,900
Quebec—						
Wheat.....	365,670	340,100	17-25	17-50	6,308,000	5,952,000
Oats.....	1,932,720	1,932,700	27-25	27-25	52,667,000	52,666,000
Barley.....	189,202	185,400	24-00	23-50	4,551,000	4,357,000
Rye.....	29,063	28,200	16-25	15-75	472,000	444,000
Flax.....	7,357	6,800	11-25	11-25	83,000	77,000
Ontario—						
Fall wheat.....	362,616	744,000	19-50	29-25	7,054,800	21,762,000
Spring wheat.....	351,423	306,120	23-25	20-00	8,186,200	6,122,000
All wheat.....	714,039	1,050,120	21-25	26-50	15,241,000	27,884,000
Oats.....	2,924,468	2,677,080	45-00	27-25	131,752,600	72,950,000
Barley.....	660,404	609,470	36-75	23-50	24,247,700	14,323,000
Rye.....	112,726	106,325	16-00	17-00	1,813,000	1,807,000
Flax.....	15,925	16,530	12-25	10-50	196,200	174,000
Manitoba—						
Fall wheat.....	2,734	6,100	18-00	20-50	49,000	125,100
Spring wheat.....	2,980,968	2,923,000	16-25	14-50	48,142,100	42,384,000
All wheat.....	2,983,702	2,929,100	16-35	14-50	48,191,100	42,509,100
Oats.....	1,714,894	1,715,000	31-75	34-25	54,473,500	58,739,000
Barley.....	1,102,965	1,103,000	25-25	22-25	27,963,400	24,542,000
Rye.....	240,469	248,000	16-25	16-50	3,935,700	4,092,000
Flax.....	107,961	106,000	10-00	10-75	1,091,000	1,140,000

I. Preliminary Estimate of the Yield of Wheat, Oats, Barley, Rye and Flax, August 31, 1919, as compared with Estimate of 1918.—con.

Field Crops.	1918.	1919.	1918.	1919.	1918.	1919.
	acres.	acres.	bush. per acre.	bush. per acre.	bush.	bush.
Saskatchewan—						
Wheat.....	9,249,260	8,972,000	10.00	9.75	92,493,000	88,221,000
Oats.....	4,988,499	5,088,000	21.50	23.75	107,253,000	120,569,000
Barley.....	699,296	657,000	17.00	21.00	11,888,000	13,804,000
Rye.....	123,500	136,000	11.50	9.25	1,420,000	1,244,000
Flax.....	840,957	841,000	5.00	7.00	4,205,000	5,797,000
Alberta—						
Fall wheat.....	44,065	40,600	15.00	18.75	661,000	761,300
Spring wheat.....	3,848,424	3,810,000	6.00	9.50	23,091,000	36,345,000
All wheat.....	3,892,489	3,850,600	6.00	9.75	23,752,000	37,106,300
Oats.....	2,651,548	2,758,000	22.75	22.50	60,323,000	61,760,000
Barley.....	470,073	432,000	16.50	22.25	7,756,000	9,600,000
Rye.....	47,877	45,000	17.25	15.00	826,000	673,000
Flax.....	95,920	99,000	5.00	1.75	480,000	180,000
British Columbia—						
Fall wheat.....	7,200	7,050	24.75	32.25	178,000	227,400
Spring wheat.....	29,000	27,800	22.00	22.00	638,000	612,000
All wheat.....	36,200	34,850	22.50	24.00	816,000	839,400
Oats.....	39,000	39,400	39.75	48.50	1,550,000	1,911,000
Barley.....	7,927	7,800	26.50	31.50	209,000	246,000
Rye.....	820	960	30.00	23.00	25,000	22,000

II. Condition of Later Sown Field and Fodder Crops on August 31, 1919, as compared with July 31, 1919, and August 31, 1918.

Field Crops.	Aug. 31, 1918.	July 31, 1919.	Aug. 31, 1919.	Field Crops.	Aug. 31, 1918.	July 31, 1919.	Aug. 31, 1919.
	p.c.	p.c.	p.c.		p.c.	p.c.	p.c.
Canada—							
Peas.....	106	92	87	Nova Scotia—			
Beans.....	106	95	93	Peas.....	97	100	99
Buckwheat.....	91	94	95	Beans.....	86	100	96
Mixed grains.....	100	89	87	Buckwheat.....	93	98	99
Flax.....	—	74	77	Mixed grains.....	105	101	102
Corn for husking.....	—	89	89	Potatoes.....	102	101	99
Potatoes.....	95	88	91	Turnips.....	97	97	100
Turnips.....	95	88	99	Mangolds, etc.....			
Mangolds, etc.....				Corn for fodder.....	97	94	98
Corn for fodder.....	96	93	97	Pasture.....	91	105	105
Sugar beets.....	94	84	83				
Pasture.....	87	93	89	New Brunswick—			
P. E. Island—				Peas.....	95	95	97
Peas.....	97	100	101	Beans.....	88	99	99
Buckwheat.....	93	98	101	Buckwheat.....	88	99	103
Mixed grains.....	106	103	103	Mixed grains.....	100	97	102
Potatoes.....	94	101	100	Potatoes.....	96	99	101
Turnips.....	98	100	96	Turnips.....	96	97	99
Mangolds, etc.....				Mangolds, etc.....			
Corn for fodder.....	89	98	98	Corn for fodder.....	89	97	101
Pasture.....	98	104	102	Pasture.....	96	95	94

II. Condition of Later Sown Field and Fodder Crops on August 31, 1919, as compared with July 31, 1919, and August 31, 1918—con.

Field Crops.	Aug. 31, 1918.	July 31, 1919.	Aug. 31, 1919.	Field Crops.	Aug. 31, 1918.	July 31, 1919.	Aug. 31, 1919.
	p.c.	p.c.	p.c.		p.c.	p.c.	p.c.
Quebec—				Saskatchewan—			
Peas.....	100	97	91	Peas.....	80	75	93
Beans.....	93	97	97	Beans.....	80	100	95
Buckwheat.....	92	96	97	Mixed grains.....	90	92	80
Mixed grains.....	104	101	100	Flax.....	80	72	75
Flax.....	99	96	97	Potatoes.....	84	86	87
Corn for husking.....	94	99	95	Turnips.....	84	76	81
Potatoes.....	104	99	98	Mangolds, etc.....	100	86	100
Turnips.....	99	98	97	Corn for fodder.....	80	77	66
Mangolds, etc.....	93	105	98	Pasture.....			
Corn for fodder.....	93	105	98				
Pasture.....	98	99	96	Alberta—			
Ontario—				Peas.....	58	80	99
Peas.....	104	87	82	Beans.....	—	95	103
Beans.....	96	92	87	Mixed grains.....	80	97	104
Buckwheat.....	93	90	89	Flax.....	59	65	76
Mixed grains.....	106	84	82	Potatoes.....	68	87	89
Flax.....	94	96	81	Turnips.....	84	82	85
Corn for husking.....	83	87	87	Mangolds, etc.....	61	56	80
Potatoes.....	90	84	76	Corn for fodder.....	71	75	78
Turnips.....	94	80	80	Pasture.....			
Mangolds, etc.....	93	91	93				
Corn for fodder.....	93	91	93	British Columbia—			
Sugar beets.....	—	84	83	Peas.....	87	89	91
Pasture.....	89	89	86	Beans.....	—	88	88
Manitoba—				Mixed grains.....	98	88	97
Mixed grains.....	98	100	88	Potatoes.....	92	85	86
Flax.....	92	92	91	Turnips.....	90	86	77
Potatoes.....	107	95	90	Mangolds, etc.....	97	86	85
Turnips.....	87	95	91	Corn for fodder.....	85	84	82
Mangolds, etc.....	92	100	100	Pasture.....			
Corn for fodder.....	90	98	93				
Pasture.....	90	98	93				

ESTIMATE OF UNPRODUCTIVE AREAS IN THE PRAIRIE PROVINCES.

The crop correspondents of the Dominion Bureau of Statistics were requested to estimate at the end of August the percentage of areas sown that would (a) prove a total loss and (b) that would be cut green. The results of the compilation of the returns received are given in the following Table. They show that for all three provinces 12 p.c. of the area sown to wheat will be a total loss, whilst 5 p.c. will be cut green, the area not producing grain being therefore 17 p.c. For oats the proportions are 8 p.c. total loss, 13 p.c. cut green, 21 p.c. not producing grain; for barley 6 p.c. total loss, 2 p.c. cut green, 8 p.c. not producing grain; for rye 8 p.c. total loss, 10 p.c. cut green, 18 p.c. not producing grain; for flax 15 p.c. total loss.

Estimate of Unproductive Areas in the Prairie Provinces, 1919.

(Based upon provisional estimate of areas sown.)

Provinces.	Area sown.	Total loss.		Cut green.		Area not producing grain.		Harvest- ed area.
		p.c.	acres.	p.c.	acres.	p.c.	acres.	
Spring wheat—	acres.							acres.
Manitoba.....	2,923,000	3	87,700	10	292,300	13	380,000	2,543,000
Saskatchewan.....	8,972,000	12	1,076,600	2½	224,000	14½	1,300,600	7,671,400
Alberta.....	3,810,000	21	800,000	7	267,000	28	1,067,000	2,743,000
Total.....	15,705,000	12	1,964,300	5	783,300	17	2,747,600	12,957,400
Oats—								
Manitoba.....	1,715,000	3	51,000	9	154,000	12	205,000	1,510,000
Saskatchewan.....	5,088,000	5	254,000	14	712,000	19	966,000	4,122,000
Alberta.....	2,758,000	15	414,000	15	414,000	30	828,000	1,930,000
Total.....	9,561,000	8	719,000	13	1,280,000	21	1,999,000	7,562,000
Barley—								
Manitoba.....	1,103,000	6	66,000	2	22,000	8	88,000	1,015,000
Saskatchewan.....	657,000	4½	30,000	1	6,600	5½	36,600	620,400
Alberta.....	432,000	10	43,200	2	8,600	12	51,800	380,200
Total.....	2,192,000	6	139,200	2	37,200	8	176,400	2,015,600
Rye—								
Manitoba.....	248,000	2	5,000	5	12,400	7	17,400	230,600
Saskatchewan.....	136,000	19	26,000	23	31,000	42	57,000	79,000
Alberta.....	45,000	3	1,400	9	4,000	12	5,400	39,600
Total.....	429,000	8	32,400	10	47,400	18	79,800	349,200
Flax—								
Manitoba.....	106,000	1½	1,600	—	—	1½	1,600	104,400
Saskatchewan.....	841,000	11	93,000	—	—	11	93,000	748,000
Alberta.....	99,000	64	63,000	—	—	64	63,000	36,000
Total.....	1,046,000	15	157,600	—	—	15	157,600	888,400

CROP REPORTS FROM THE PROVINCES.

Month ended August 31, 1919.

Prince Edward Island.—Grain crops are ripening fast, and cutting will soon be general. All grains give promise of a good average yield. There is an exceptionally heavy crop of hay. Pastures are in excellent condition.

Nova Scotia.—There are no grains cut yet; they are ripening slowly on account of the continual moisture, but the growth is very good. The wet weather prevents the harvesting of hay, which is a heavy crop. Fear is expressed that it may be damaged. Potatoes, also plentiful, are showing signs of rot. Everything depends now on favourable weather.

New Brunswick.—The grain crop will give fair yields if harvesting conditions are good; they are late in ripening, because the weather continues very foggy and cloudy. Oats and buckwheat promise well.

Haying is well advanced. A fair crop of potatoes is expected, although mention is made several times of blight and rust.

Quebec.—The great drought of July and August was detrimental to all grain crops, meadows and pastures, especially on sandy soil. At present rain has fallen in abundance and conditions have wonderfully improved. Prospects look bright for good crops, if too much rain does not prevent the harvesting. The yield of potatoes is not as satisfactory as could be desired; they will probably be scarce. Oats were damaged by rust, and the yield will be light. In some sections insects are numerous, and grasshoppers are injuring the oats. Hay will be dear; the quality of it is first class.

Ontario.—While there is much damage done to all spring-sown grain, the harvest is fair, considering the adverse conditions throughout the season. Wheat is thin and short in straw, but the heads are well filled. The oat crop suffered most; in some cases it is not worth cutting, being too short for the binder. Late oats are rusted. A considerable amount is still standing in the fields and growing in the stooks. A swarm of grasshoppers injured both oats and pastures. Early potatoes are almost a failure; late ones are improved. Late rains were beneficial to roots and pastures. Buckwheat will have a good yield if frost does not come early. Hay is plentiful. Pastures are looking green again and dairy cattle are looking better. Fodder corn made rapid growth after the rain, and it will be a good crop.

Manitoba.—The prospects for a full crop of wheat, oats and barley were never better, until excessive heat, red and black rust, insects and grasshoppers became a serious menace. The long continued drought hastened the premature development of wheat, and the grade will be inferior. Threshing, the earliest in years, is well under way, and returns will show decreased yields for all crops. There will be an abundance of feed of all kinds.

Saskatchewan.—The hail storm and high winds about July 1st devastated many acres of grain, principally in southern Saskatchewan. There are many complaints of wheat shrinkage, due to prolonged drought and rust. Wheat kernels are much smaller; the grain matured too early. Great damage was also done by grasshoppers, cutworms, Hessian flies, etc. A heavy rainfall in the month of August had no favourable effect on spring wheat, but it proved very beneficial to late sown oats, potatoes and pastures. Grains that had lain dormant are now making good progress. If frosts are delayed there will be hope for oats, otherwise, they will be cut for green feed. Pastures are in splendid condition for cattle this fall. The harvesting of field crops is much earlier this season. A few correspondents mention a scarcity of water for live stock.

Alberta.—The prospects for good grain are very poor. The very dry weather of the early part of the season made wheat an almost absolute failure, especially in southern Alberta. Rain came too late for early sown grain, but it revived pastures, and stimulated further germination in some areas. Oats, with continued fair weather, may be an average crop. If frosts occur, they will be mostly green feed.

British Columbia.—The long continued drought seriously affected all crops, except on low lands and where irrigation is practised. Potatoes, in some districts, are a partial failure. Threshing is about half done. Pastures are bare. Fruits are smaller. Late rains will help apple crop to mature.

CROP REPORTS FROM PROVINCIAL GOVERNMENTS.

Ontario.—The Ontario Department of Agriculture reports (August 25) that generous rains during the last week or ten days have had a reviving effect upon pastures, corn, late potatoes, and roots, which crops have been noticeably suffering from the prolonged drought. Nearly all spring grains have been cut. In some quarters a part of these crops is still in the stook, but the bulk has been well housed. Where threshed, spring grains as a rule are not going over the estimate in actual weight. Some complaints are being made of rust in oats. A few beans have been already harvested, and are running rather light in yield. The rains were timely for those intending to put in winter wheat, and if present intentions and preparations are carried out last year's area of this crop will be considerably increased this fall. The potato yield for all counties in old Ontario is estimated at 86 bushels per acre as against 116 bushels the 36-year average.

Manitoba.—The Manitoba Department of Agriculture reports (August 30) that the close of August finds Manitoba with all its crop cut except a small percentage of the later fields, most of these later crops being intended for feeding purposes; also a big swath of the threshing is done. It is safe to say that the work is a full month ahead as compared with some years and at least two or three weeks ahead of the average. In the main the weather for the past month has been hot, dry and rather inclined to be windy, and the western side of the province has been in need of a good rain in order to soften the ground for ploughing and to help the late pastures. Over a considerable area such a rain fell on Thursday, August 28. A great many correspondents believe that the heat did more harm to the crops than was wrought by the rust; this is more true of the western than of the eastern side of the province. The average of all the estimates as to yields as reported is as follows: Wheat, a little over 15 bushels; oats, about 38 bushels; barley, 23 bushels. Wheat grades generally will not be high. Perhaps the most disappointing crop all round is late barley. Reports as to potatoes vary a great deal, but are not generally above the average. In the eastern side of the province some correspondents report plenty of hay and straw to spare, while there will not be quite enough for the stock on hand in the southwestern corner of the province.

Saskatchewan.—The Saskatchewan Department of Agriculture reported (August 25) that threshing was now general throughout the province, according to reports received during the week ended August 23. In the southeastern districts, reports show that threshing will be general by the 25th. The yield of wheat in the northern part of the

district will run from 15 to 20 bushels, while in the south estimates run from 5 to 15. Oats and flax will be better in many places than expected.

Alberta.—The following telegram from the Alberta Department of Agriculture was received on September 24: "Our preliminary estimate puts spring wheat not above last year. There is practically no fall wheat in the province, and estimates are not important. Oats may stand about 22. In central and northern Alberta, where barley is chiefly grown, an increase over last year is justified. Rye might be slightly higher as even on Nobleford Foundation in the south the count is 15 bushels, and the centre and north would run some better. Have not arrived at flax estimate."

British Columbia.—The following telegram from the British Columbia Department of Agriculture was received on September 18: "The condition of crops in percentage of a standard of 100 is as follows: Spring wheat 83, oats 86, barley 90, rye 85, peas 90, beans 82, mixed grains 89, corn for husking 87, potatoes 80, turnips 78, man-golds 80, sugar beets 78, fodder corn 73, hay and clover 94, grain hay 90, alfalfa 84, pasture ranges 81. Yields in bushels per acre: Spring wheat 23, rye 22, oats 47, barley 35. Per cent area of total loss: Spring wheat 15, rye 17, oats 15, barley 20. Per cent cut for hay: Spring wheat 9, rye 30, oats 22, barley 10.

TELEGRAPHIC CROP REPORTS.

A summary of telegraphic crop reports, received on the condition of field crops in Canada at the end of August, was issued on September 4, 1919, by the Dominion Bureau of Statistics, as follows:—

Atlantic Provinces.—**PRINCE EDWARD ISLAND** (Charlottetown): Weather favourable for hoed crops. Heavy crop of hay, well saved. Cereals have filled well and yield above average. Potatoes and corn doing well. **NOVA SCOTIA** (Kentville): Weather dull and favourable for all growing crops; haying generally finished and above average yield; early seeded grain ripening rapidly and 25 per cent harvested; yield above average and well filled; potatoes promise an average crop with little blight; corn excellent; apples developing well. **NEW BRUNSWICK** (Fredericton): August has given moderately warm weather; many showers, but only two inches rainfall; rather slow haying and harvesting weather, but excellent for growing crops; grains are all up to average except wheat; potatoes promise a full crop unless blight becomes general; roots are good and pastures better than usual.

Quebec.—(Ste. Anne de la Pocatière): Weather conditions have been seasonable and favourable to all crops; cereals ripening normally, will yield a little over average crop, so will the field roots; potato affected by late blight and mosaic, which reduce the yield 30 per cent. (Quebec): All grain and corn for silage better than average; potatoes good, roots medium, pastures fair, apples very good, plums, cherries, pears, bad; all vegetables promise fine crop with exception of onions. (Lennoxville): Weather throughout August favourable for crops, although the rain for the last ten days has retarded the harvesting of grain. Practically all grain is cut, with a large percentage still in shock; silage corn, potatoes and roots looking well.

Ontario.—(Toronto): All grain crops well secured; fall wheat and rye average yields, long straw. Spring wheat average yield, short straw; barley and oats very light in grain and straw. Summer pastures very poor, corn barely middling, potatoes and roots poor, but all growing crops are improving with recent rains.

Manitoba.—(Morden): Threshing half completed, wheat yielding from 12 to 15 bushels; oats 40 bushels; weather hot and dry; potatoes poor, garden stuff ripening well.

Saskatchewan.—(Indian Head): Threshing general in this district, wheat will average about 20 bushels per acre, oats 50 bushels and barley 20 bushels. Later wheat damaged by rust, some wheat grading number one, but dockage heavy for small grains; bulk of crop will grade number two. (Scott): Beneficial rains early in month have improved the feed

situation considerably, but were almost too late to help early maturing grain crops. Cutting is nearly completed and threshing has commenced; yields are more variable than usual. Wheat yields running from 2 to 3 bushels per acre up to 30. (Rosthern): No frost during August; rust damaged 50 per cent of ripe grain; yield of wheat Duck Lake to Rosthern 12 bushels, Rosthern to Hague 5 bushels, Hague to Saskatoon nothing; feed for three-quarters stock between rivers; no cultivated hay, only native hay on sloughs; oats and barley insufficient for seed.

Alberta.—(Lacombe): Weather during August warm; showers totalled 1.5 inch at Lacombe. No frost reported; cutting now general; grain yields better than expected. Wheat 20 to 30 bushels; oats 40 to 60; barley 30 bushels; sample good. Late green feed growing, and feed situation improved. (Lethbridge): While the rains in the early part of the month improved the summer pasture, it has not greatly improved the live stock situation, so far as winter feed is concerned, second cutting of alfalfa well advanced. Wheat harvest in southern Alberta completed, and threshing started.

British Columbia.—(Invermere): Rains from first to fourth broke long continued drought; precipitation for the four days exceeding that of previous three months; crop prospects materially improved in consequence. Second crop hay from irrigated plots very good, especially alfalfa; dry farming plots a failure; harvesting of all grains has been completed and threshing commenced; potatoes and corn promise well. (Summerland): Hot dry weather has ripened crop very quickly; some districts are suffering from want of water; the apple crop is largest in the industry; peaches fair crop, but small. (Agassiz): August, with only 0.45 inch rain, is driest for four years. Excellent month to harvest and thresh. Grain yields slightly below average. Roots and pasture badly in need of moisture. (Sydney): Grain cutting completed and 50 per cent of threshing done; autumn grain yielding well; spring grain below average; roots, corn and potatoes suffering from drought; pastures dry.

STOCKS OF GRAIN IN CANADA ON AUGUST 30, 1919.

In Table I are given the results of the compilation of returns received from crop correspondents estimating the quantities of wheat, barley and oats in the hands of farmers at the close of the Canadian crop year on August 30, 1919. The corresponding figures for 1917 and 1918 are included. An attempt was made this year to obtain similar estimates for rye and flax, but these crops being relatively small the returns received did not appear reliable and were not therefore used.

I. Wheat, Barley and Oats in Farmers' Hands on August 31, 1917 and 1918, and August 30, 1919.

Field Crops.	Total production in 1916.			Total production in 1917.			Total production in 1918.			Total production in 1919.		
	000 bush.	p.c.	bush.	000 bush.	p.c.	bush.	000 bush.	p.c.	bush.	000 bush.	p.c.	bush.
Canada—												
Wheat.....	262,781	1.14	2,997,300	233,743	0.19	431,340	189,075	1.14	2,149,000			
Barley.....	42,770	0.98	418,740	55,058	0.64	354,210	77,287	1.86	1,437,100			
Oats.....	410,211	4.00	16,524,500	403,010	2.13	8,577,800	426,313	3.79	16,137,100			
P. E. Island—												
Wheat.....	578	2.44	14,000	522	0.85	4,400	606	4.55	27,600			
Barley.....	105	0.32	340	100	0.10	110	162	0.83	1,300			
Oats.....	7,413	3.04	225,000	6,482	1.64	106,300	5,839	0.15	8,800			
Nova Scotia—												
Wheat.....	261	—	—	255	0.48	1,200	728	3.76	27,400			
Barley.....	123	—	—	119	—	—	347	2.13	7,400			
Oats.....	4,031	—	—	3,598	0.63	23,000	5,403	3.47	187,500			
New Brunswick—												
Wheat.....	242	2.19	5,300	192	0.23	440	940	1.59	15,000			
Barley.....	45	1.56	700	40	—	—	163	0.26	400			
Oats.....	6,039	4.66	281,000	4,275	0.80	34,000	7,051	1.58	111,400			

I. Wheat, Barley and Oats in Farmers' Hands on August 31, 1917 and 1918, and August 30, 1919—con.

Field Crops.	Total production in 1916.	In farmers' hands, Aug. 31, 1917.		Total production in 1917.	In farmers' hands, Aug. 31, 1918.		Total production in 1918.	In farmers' hands, Aug. 31, 1919.	
	000 bush.	p.c.	bush.	000 bush.	p.c.	bush.	000 bush.	p.c.	bush.
Quebec—									
Wheat.....	960	0.21	2,000	3,884	0.70	27,200	6,308	2.09	131,800
Barley.....	1,456	0.17	2,500	3,064	0.20	6,100	4,551	1.29	59,000
Oats.....	24,411	0.84	205,000	32,466	1.30	422,000	52,667	3.22	1,696,000
Ontario—									
Wheat.....	17,931	1.46	262,000	16,318	2.14	349,000	15,241	3.21	419,000
Barley.....	7,498	0.71	53,000	11,191	1.10	122,000	24,248	4.27	849,000
Oats.....	50,771	2.25	1,142,000	98,076	4.40	4,315,500	131,753	8.37	9,855,000
Manitoba—									
Wheat.....	29,667	0.30	89,000	41,040	—	—	48,191	1.55	376,000
Barley.....	13,729	1.07	147,000	15,930	0.56	89,000	27,963	2.24	422,000
Oats.....	48,439	3.14	1,521,000	45,375	1.72	780,000	54,474	4.10	1,863,000
Saskatchewan—									
Wheat.....	147,559	1.05	1,549,000	117,921	—	—	92,493	1.22	1,128,000
Barley.....	9,916	0.82	81,000	14,068	0.37	52,000	11,888	0.66	78,000
Oats.....	163,278	5.32	8,686,000	123,214	0.21	25,900	107,253	1.57	1,684,000
Alberta—									
Wheat.....	65,088	1.65	1,074,000	52,992	0.69	36,600	23,752	0.05	24,000
Barley.....	9,774	1.37	134,000	10,386	0.82	85,000	7,756	0.26	20,000
Oats.....	102,199	4.35	4,446,000	86,289	3.25	2,804,000	60,323	1.21	730,000
British Columbia—									
Wheat.....	495	0.40	2,000	619	2.02	12,500	816	0.04	200
Barley.....	124	0.17	200	161	—	—	209	—	—
Oats.....	3,630	0.51	18,500	3,236	2.10	67,600	1,550	0.09	1,400

In addition to the inquiry respecting grain in farmers' hands, a schedule was addressed to a selection of the largest country elevator companies with the object of ascertaining the quantities of wheat, barley, oats, rye and flax in those elevators on August 30, 1919. In reply returns were received from 62 companies representing a total of 2,854 elevators operated. A total of 15 companies who failed to reply represented 244 elevators. The quantities reported to be in these country elevators on August 30, 1919, were as follows: Wheat 762,362 bushels, barley 275,225 bushels and oats 735,258 bushels. To these figures have to be added the quantities in the terminal and public elevators on August 30, 1919, as reported to the Internal Trade Division of the Dominion Bureau of Statistics. The total quantities of wheat, barley and oats in Canada at the end of August, 1919, as compared with the corresponding dates of 1917 and 1918 were as shown in Table II. The quantities of rye and flax in the elevators are also shown for 1919.

II. Quantities in Canada of Wheat, Barley and Oats on August 31, 1917 and 1918, and on August 30, 1919, and of Rye and Flax on August 30, 1919.

Quantities in	Wheat.			Barley.		
	Aug. 31, 1917.	Aug. 31, 1918.	Aug. 30, 1919.	Aug. 31, 1917.	Aug. 31, 1918.	Aug. 30, 1919.
	bush.	bush.	bush.	bush.	bush.	bush.
Farmers' hands.....	2,997,300	431,340	2,149,000	418,740	354,210	1,437,100
Terminal elevators.....	1,140,860	16,878	433,920	128,840	460,560	244,566
Public elevators.....	2,393,425	3,120,215	2,108,884	105,794	434,479	1,388,502
Country elevators.....	932,837	414,591	762,362	64,765	204,241	275,225
Total.....	7,464,422	3,983,024	5,454,166	718,139	1,453,490	3,345,393

Quantities in	Oats.			Rye.	Flax.
	Aug. 31, 1917.	Aug. 31, 1918.	Aug. 30, 1919.	Aug. 30, 1919.	Aug. 30, 1919.
	bush.	bush.	bush.	bush.	bush.
Farmers' hands.....	16,524,500	8,577,800	16,137,100	—	—
Terminal elevators.....	3,482,913	3,063,667	1,371,043	152,209	37,610 ¹
Public elevators.....	2,811,312	2,901,296	1,036,555	—	—
Country elevators.....	552,119	426,627	735,258	6,642	15,047
Total.....	23,370,844	14,969,390	19,279,956	158,851	52,657

¹Including 63 bushels held on account of Imperial Government.

According to this table about 5,454,000 bushels of wheat, 3,345,000 bushels of barley, 19,280,000 bushels of oats, 159,000 bushels of rye and 53,000 bushels of flaxseed constituted the "carry over" into the new crop year ending August 31, 1920. The figures represent actual quantities, except in the case of the quantities in farmers' hands, which are estimated from the reports of crop correspondents. The totals are under rather than over the actual quantities, because account is not taken of grain in transit, of grain in country elevators, from which returns were not received, of grain in flour mills, and of grain in retail hands.

INFLUENCE OF THE WEATHER UPON THE GROWTH OF SPRING WHEAT.

Table I on pages 222 and 223 records by provinces and districts the observations collected during August from crop correspondents with reference to the dates during 1919 (1) when heading was general; (2) of flowering stage; (3) of reaching milk stage; (4) of first cutting; (5) when cutting was general; and (6) of completion of cutting.

I. Dates of Heading, Flowering, Milk-stage and Cutting of Spring Wheat, 1919—concluded.

Province and District.	First Cutting.					Cutting General.					Cutting Completed.				
	No. of re-plies.	Aug. 1-7.	Aug. 8-14.	Aug. 15-21.	Aug. 22-31.	No. of re-plies.	Aug. 1-7.	Aug. 8-14.	Aug. 15-21.	Aug. 22-31.	No. of re-plies.	Aug. 1-7.	Aug. 8-14.	Aug. 15-21.	Aug. 22-31.
Prince Edward Island.....	11	1	-	-	10	2	-	-	-	1	-	-	-	-	-
Nova Scotia.....	37	-	-	8	29	12	-	-	-	11	1	-	-	-	1
New Brunswick.....	22	-	2	3	17	11	-	-	-	2	2	-	-	-	2
Quebec—															
North of St. Lawrence.....	41	2	8	19	12	34	-	1	8	25	16	-	-	-	16
South of St. Lawrence.....	37	-	3	14	20	22	-	-	2	20	3	-	-	-	3
Eastern Townships.....	39	4	6	18	11	34	-	2	11	21	15	-	3	-	12
Montreal Counties.....	24	1	5	12	6	20	-	-	5	15	8	-	-	-	8
Ontario—															
Eastern.....	32	10	11	10	1	33	2	8	18	5	29	-	5	9	15
Central.....	26	13	6	7	-	39	12	12	12	3	41	3	10	17	11
North Western.....	35	16	9	10	-	41	13	12	14	2	50	8	10	15	17
South Western.....	14	6	6	2	-	16	8	3	5	-	21	5	7	4	5
Northern.....	17	8	7	1	1	23	2	8	11	2	22	-	4	7	11
Manitoba—															
Eastern.....	14	8	5	1	-	22	12	4	5	1	24	-	-	13	11
North Central.....	8	5	2	1	-	18	11	4	3	-	24	-	2	10	12
South Central.....	9	7	2	-	-	19	10	8	1	-	29	1	8	11	9
North Western.....	26	22	2	2	-	47	28	11	4	4	53	-	10	25	18
South Western.....	8	7	1	-	-	29	25	3	1	-	38	1	8	16	13
Saskatchewan—															
North.....	44	26	12	6	-	66	22	22	16	6	55	-	3	15	37
South.....	28	21	3	4	-	48	20	22	5	1	47	4	2	21	20
Alberta—															
North.....	45	4	13	22	6	40	-	2	22	16	20	-	2	1	17
South.....	11	5	5	-	1	12	3	3	6	-	15	-	2	4	9
British Columbia.....	9	3	1	2	3	8	2	1	2	3	4	1	1	-	2

Table II gives the same information by provinces, as compared with 1918. For the flowering and milk stages the majority of the records during both years were recorded in July, as shown in the Monthly Bulletin for August. The records of cutting show how much earlier the harvesting season was this year than it was last year.

II. Dates of Heading, Flowering, Milk-Stage and Cutting of Spring Wheat, 1918 and 1919.

A. DATES OF HEADING GENERAL.

Items.	Pr. Ed. Is.		N. S.		N. B.		Que.		Ont.	
	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.
No. of records of heading	9	6	14	25	13	3	39	15	1	4
August 1-7.....	5	5	8	14	10	2	15	12	1	3
August 8-14.....	2	-	4	5	2	1	14	1	-	1
August 15-21.....	2	1	2	5	1	-	9	2	-	-
August 22-31.....	-	-	-	1	-	-	1	-	-	-

Items.	Man.		Sask.		Alberta.		B. C.		Canada.	
	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.
No. of records of heading	3	-	1	-	4	-	2	-	86	53
August 1-7.....	2	-	1	-	1	-	2	-	45	36
August 8-14.....	-	-	-	-	1	-	-	-	23	8
August 15-21.....	1	-	-	-	2	-	-	-	17	8
August 22-31.....	-	-	-	-	-	-	-	-	1	1

B. DATES OF FLOWERING STAGE.

Items.	Pr. Ed. Is.		N. S.		N. B.		Que.		Ont.	
	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.
No. of records of flowering.....	14	6	12	24	14	10	71	37	2	7
August 1-7.....	4	1	2	6	-	5	24	16	1	5
August 8-14.....	7	4	4	11	10	2	16	18	1	1
August 15-21.....	3	1	4	6	4	3	25	2	-	1
August 22-31.....	-	-	2	1	-	-	6	1	-	-

Items.	Man.		Sask.		Alberta.		B. C.		Canada.	
	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.
No. of records of flowering.....	10	1	11	-	7	3	-	-	141	88
August 1-7.....	6	1	8	-	2	3	-	-	47	37
August 8-14.....	2	-	2	-	3	-	-	-	45	36
August 15-21.....	2	-	1	-	1	-	-	-	40	13
August 22-31.....	-	-	-	-	1	-	-	-	9	2

II. Dates of Heading, Flowering, Milk-Stage and Cutting of Spring Wheat, 1918 and 1919—con.

C. DATES OF MILK-STAGE.

Items.	Pr. Ed. Is.		N. S.		N. B.		Que.		Ont.	
	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.
No. of records of milk-stage.....	18	8	22	35	23	12	105	62	13	19
August 1-7.....	1	-	-	2	5	-	15	15	8	9
August 8-14.....	7	1	6	3	2	6	24	13	2	7
August 15-21.....	4	6	12	23	11	4	46	30	2	3
August 22-31.....	6	1	4	7	5	2	20	4	1	-

Items.	Man.		Sask.		Alberta.		B. C.		Canada.	
	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.
No. of records of milk-stage.....	35	2	57	1	20	11	2	2	295	152
August 1-7.....	14	2	26	1	6	2	1	1	76	32
August 8-14.....	10	-	18	-	7	6	1	-	77	36
August 15-21.....	11	-	13	-	5	3	-	1	104	70
August 22-31.....	-	-	-	-	2	-	-	-	34	14

D. DATES OF FIRST CUTTING.

Items.	Pr. Ed. Is.		N. S.		N. B.		Que.		Ont.	
	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.
No. of records of first cutting.....	13	11	26	37	22	22	198	141	80	124
August 1-7.....	-	1	-	-	-	-	19	7	23	53
August 8-14.....	-	-	1	-	-	2	31	22	27	39
August 15-21.....	1	-	6	8	2	3	81	63	23	30
August 22-31.....	12	10	19	29	20	17	67	49	7	2

Items.	Man.		Sask.		Alberta.		B. C.		Canada.	
	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.
No. of records of first cutting.....	93	65	158	72	60	56	10	9	660	537
August 1-7.....	4	49	4	47	7	9	3	3	60	169
August 8-14.....	14	12	14	15	8	18	4	1	99	109
August 15-21.....	45	4	75	10	29	22	1	2	263	142
August 22-31.....	30	-	65	-	16	7	2	3	238	117

II. Dates of Heading, Flowering, Milk-Stage and Cutting of Spring Wheat, 1918 and 1919—con.

E. DATES OF CUTTING GENERAL.

Items.	Pr. Ed. Is.		N. S.		N. B.		Que.		Ont.	
	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.
Dates of cutting general	—	2	12	12	8	11	156	110	93	152
August 1-7.....	—	—	—	—	—	—	1	—	13	37
August 8-14.....	—	—	—	—	—	—	8	3	32	43
August 15-21.....	—	1	—	1	1	2	51	26	32	60
August 22-31.....	—	1	12	11	7	9	96	81	16	12

Items.	Man.		Sask.		Alberta.		B. C.		Canada.	
	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.
Dates of cutting general	83	135	139	114	58	52	14	8	563	586
August 1-7.....	—	86	—	42	—	3	1	2	15	170
August 8-14.....	4	30	2	44	3	5	2	1	51	126
August 15-21.....	26	14	26	21	22	28	6	2	164	145
August 22-31.....	53	5	111	7	33	16	5	3	333	145

F. DATES OF CUTTING COMPLETED.

Items.	Pr. Ed. Is.		N. S.		N. B.		Que.		Ont.	
	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.
No. of records of cutting completed.....	—	—	—	1	3	2	78	42	95	163
August 1-7.....	—	—	—	—	—	—	—	—	4	16
August 8-14.....	—	—	—	—	—	—	—	—	10	36
August 15-21.....	—	—	—	—	—	—	8	3	44	52
August 22-31.....	—	—	—	1	3	2	70	39	37	59

Items.	Man.		Sask.		Alberta.		B. C.		Canada.	
	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.
No. of records of cutting completed.....	21	168	12	102	19	35	11	4	239	517
August 1-7.....	1	2	—	4	—	—	—	1	5	23
August 8-14.....	—	28	—	5	—	4	1	1	11	74
August 15-21.....	1	75	—	36	1	5	3	—	57	171
August 22-31.....	19	63	12	57	18	26	7	2	166	249

DOMINION EXPERIMENTAL FARMS AND STATIONS.

Central Farm, Ottawa.—The weather for the first half of August was warm and very dry, no rain being registered until the 17th, but from which date to the 31st light showers have been experienced on twelve different days, and it has been quite cool for this time of the year. The highest reading of the thermometer during the month is 91·6, the lowest 41·9 and the mean temperature 66·53; while a year ago the maximum was 92, the minimum 43·8 and the mean 67·59. The rainfall totals 1·41 inch, which is the lowest for August in many years; a year ago the amount was 2·92 inches and the average for the month from 1911 to 1918 was 3·38 inches. The bright sunshine averages 6·8 hours a day, as compared with 9 hours a day for the corresponding period of 1918.

In the Ottawa district, owing to the prevailing drought, there is likely to be very little second crop clover to cut for hay. Practically all oat fields have been harvested during the month. The yield of this grain at the Experimental Farm averages 56 bushels to the acre, which, while considerably less than last year, is almost an average return. In the district, the oat yield is below normal, and the acreage also was less than usual, and the straw of what has been grown is very short. Potatoes have made slow growth, and the crop is likely to be a light one. Roots, also, have made slow growth, and, unless they do extra well during September, the yield will be below the average.

Charlottetown, P.E.I.—J. A. Clark, Superintendent, reports:—“There have been frequent showers during August, and conditions have been favourable for growing grain and roots. Although haying has been somewhat retarded by rain, most of the hay has been saved in good shape. Cereal crops are heavy, but, owing to heavy showers from the 26th to the 28th, considerable grain has lodged. At the Station, the first cutting was done on the 25th; and harvesting is likely to be general early in September. The crop of turnip seed, which promises to be heavy, was cut about the middle of the month, and it is still in stook; while, at the end of the month, that of mangolds, which also is very promising, looks to be nearly ready for cutting.”

Kentville, N.S.—W. S. Blair, Superintendent, reports:—“No very extreme temperatures have been recorded during August, the highest reading of the thermometer being 80, and the lowest 41. The mean temperature is 63·19, as compared with an average of 64·21 for the five years previous. The precipitation—most of which has been recorded during the latter part of the month, with showers on ten days out of fifteen—totals 2·21 inches; while the average rainfall for August from 1915 to 1918 was 2·75 inches. The bright sunshine aggregates 191·8 hours, as against an average of 207·4 hours for the previous five years. The recent showers have handicapped those who did not get their haying finished during the first half of the month. Grains have filled well, and at this Station the harvesting of the same has been completed. In this district farmers so far probably

have not cut more than 25 per cent of their cereals; reports indicate a higher yield than usual. The potato crop is likely to be only fair. Corn has made excellent growth throughout the season."

Nappan, N.S.—W. W. Baird, Superintendent, reports:—"For the most part, the weather during August has been rather unsettled. While no very heavy rains have been recorded, there nevertheless has been a great lack of sunshine, which delayed haying operations, and the month closes with only from 50 per cent to 75 per cent of the hay harvested, and this not in such good condition as last year, although all reports indicate a somewhat better yield than in 1918. Crops, generally, have made satisfactory growth. Roots and corn, especially, have come on very rapidly. Turnip seed has ripened slowly. Some of the earlier sown grains have been cut during the latter part of the month and give evidence of a satisfactory yield. The earlier apples, such as Yellow Transparent, Red Astrachan and Duchess, are being harvested. The work, other than caring for live stock, that has engaged attention at this Farm has included cutting and making hay (of which about 300 tons have been stored), cutting grain, picking fruit, spreading manure, cutting wood, and building a new farm cottage."

Fredericton, N.B.—W. W. Hubbard, Superintendent, reports:—"August has been rather moist and cloudy, without much precipitation or warm weather, but with an even temperature that gives a higher mean than the average. Cereal crops have filled well and have been cut in good season, but none except the fall grains have been housed or threshed, the dull weather preventing drying. Potatoes have been slightly affected with late blight, and, in some sections, have gone down completely. At the Station, only the check plots not sprayed have been attacked. Root crops are growing exceedingly well. Some soft rot is noticeable in turnips. There has been very little aphids this season on either turnips or potatoes. Pastures have kept up well and live stock is in good condition."

Ste. Anne de la Pocatière, Que.—Jos. Begin, Superintendent, reports:—"The temperature extremes for August are about the same as those recorded during the corresponding period of 1918, the highest being 80.8, the lowest 34.8 and the mean 58.1, compared with a maximum of 81.4 and a minimum of 34.8, and a mean of 56.7 a year ago. The rainfall totals 3.68 inches, as against 1.01 inch for this time last year. The bright sunshine averages 6.14 hours a day, as against 7.81 hours in 1918. The weather has been seasonable and rather favourable for all crops, there being neither very severe storms nor frost. The nights, though, have been rather cool during the last half of the month, somewhat retarding Indian corn and mangolds. Swede turnips, however, have made excellent growth. Cereals are ripening evenly and are free from rust. A considerable proportion of the grain at the Station has been harvested and threshed, and also occasional fields elsewhere, the indications being that the yield will exceed the average of the last five years in this section. A good portion of the hay was harvested during the first three weeks

of the month. Taking Eastern Quebec as a whole, the hay crop is probably 15 per cent below normal. Although potatoes have been recently attacked by late blight, the total crop should be a very good one. Pastures have continued to be satisfactory, with live stock doing well."

Cap Rouge, Que.—G. A. Langelier, Superintendent, reports:—"August has been warmer, drier and brighter than the average of the corresponding month for the last seven years, the respective figures being 63.39 and 63.05 for mean temperature, 3.39 and 4.62 inches for precipitation, and 207.7 and 200.6 hours for sunshine. At the Station, part of the grain is cut, and what has been threshed is yielding very well. All land intended for roots next year has been ploughed shallow and flat, and then rolled and disced. A great number of people visited the Station this year, over six hundred meals being provided in a single week. It is very easy to see that farmers are deeply interested in their business and, though less of them remain to till the soil, the most efficient ones do not move citywards. All crops in this district look excellent, with the exception of roots, which are only fair."

Lennoxville, Que.—J. A. McClary, Superintendent, reports:—"The weather during August has been cool and dull, with frequent showers. The highest temperature recorded is 83, compared with 88 last August; the lowest 35, compared with 30 last year; while the mean temperature is 62.19, against 62.27 a year ago. The precipitation amounts to 3.59 inches, while last year it was 2.39 inches, and, for the corresponding month two years ago, 8.27 inches. The sunshine aggregates 196.8 hours, as against 230 hours in 1918. In this district, a large percentage of the grain is cut, but very little as yet has been threshed. Corn and roots are looking well, but the apple crop is very light. The annual Farmers' Day gathering, which was held at this Station on August 14th, was attended by a very large number of farmers and their families from the surrounding districts. Those present included the Hon. S. F. Tolmie, the recently appointed federal Minister of Agriculture; Dr. J. H. Grisdale, Deputy Minister of Agriculture, and Dr. A. T. Charron of the Provincial Department of Agriculture. This Station had quite a large exhibit at the Great Eastern Exhibition held at Sherbrooke from the 23rd to the 27th. There was much interest shown in the different lines of work represented there, especially live chickens and water fowl, which added much to the attraction of the exhibit."

Brandon, Man.—W. C. McKillican, Superintendent, reports:—"August has been hot and dry, with considerable wind. Cutting was general at the first of the month, and, except for late green feed, was completed by the 20th. Threshing is fully half done at the end of the month, this being the earliest season for many years, if not the earliest on record. Rust and premature ripening have lowered the yield of wheat to about one-half to two-thirds of the earlier indications. There is a fairly good crop of oats, but barley has suffered a good deal from ripening too rapidly. The warm weather has been

favourable for corn, which is an unusually good crop throughout Manitoba. At the Experimental Farm, grain cutting was finished early, and threshing also is practically completed."

Indian Head, Sask.—N. D. Mackenzie, Acting Superintendent, reports:—"August came in warm and remained so to the end of the month. Several heavy showers, experienced from the 5th to the 14th, helped out the late oats and barley. All grain was in stook by the 20th, and threshing was general by the 22nd. Fallow wheat is yielding from 18 to 25 bushels per acre, stubble wheat 8 to 10 bushels, barley 25 to 40, and oats 40 to 55 bushels. Fodder corn is a good average crop and is well cobbled this season. Roots will be below the average. The work engaging attention at the Experimental Farm during the month has included harvesting and threshing, cultivating fallows, and caring for the live stock and poultry."

Rosthern, Sask.—W. A. Munro, Superintendent, reports:—"There has been no frost in August. Despite dry weather, the vegetable garden has come along splendidly all summer, ripening more of such products as tomatoes, melons, cucumbers, squash and corn than has been usual of late years. What little harvesting there was to be done in the district was completed under very favourable conditions, and at the end of the month threshing is well under way. There are many parts in the south and west of the district where no grain will be harvested, and in the parts from which there is any crop, the yield of wheat is from seven to twelve bushels per acre of oats from fifteen to twenty, and of barley fifteen bushels per acre."

Scott, Sask.—M. J. Tinline, Superintendent, reports:—"The weather during August has been warm, with beneficial rains between the 4th and 13th. As a result of the moisture, late sown crops have improved wonderfully, and a second growth in early sown oats will give a good supply of fall pasture. Early ripening grain matured too early, however, to be much benefited by the rains. At the end of the month harvesting is well advanced, and threshing is commencing. At the Station, the wheat is all threshed and the threshing of oats is progressing rapidly."

Lacombe, Alberta.—B. C. Milne, Assistant to the Superintendent, reports:—"The weather during August has been warm, and numerous light showers fell, which resulted in an improvement in the feed situation. In many districts, a splendid late growth of oats is well in head, while ripe grain has filled remarkably well, the sample being somewhat better than usual. The yield of straw is not so heavy as usual in central Alberta, but is fine, and will make excellent feed. Wheat crops should yield about 20 to 30 bushels to the acre. Oats are estimated at from 40 to 60 bushels, while an average yield of 30 bushels of barley per acre should be threshed. No frost has been recorded during the month at this Station. Hay is difficult to procure, and the price ranges from \$15 per ton in the stack to \$28 f.o.b. cars for upland hay. It is possible some green feed may be placed on the market. Live stock prices have declined towards the end of the month. This will have little effect on hogs, since very few are being

offered, and the total demand is steadying the market. Cattle has taken a drop of 50 cents or more."

Lethbridge, Alberta.—W. H. Fairfield, Superintendent, reports:—"While the rainfall in the early part of August has improved the summer pasture, it has not greatly helped the live stock situation in so far as winter feed is concerned. The second cutting of alfalfa is well advanced, while the wheat harvest in southern Alberta is completed, and threshing has started."

Invermere, B.C.—R. G. Newton, Acting Superintendent, reports:—"Meteorological conditions during August have been about on a par with those for this time in previous years, the outstanding feature being the welcome rainfall from the 1st to the 4th, breaking the drought which had extended over the four preceding months. The precipitation for the four days exceeded the total for May, June, and July, and its good effect was soon visible in the district. At the Experimental Station, the second cutting of alfalfa has yielded a good crop. Most of the cereals have been harvested under ideal conditions, the yields from the dry-farming plots being, however, almost negligible."

Summerland, B.C.—R. H. Helmer, Superintendent, reports:—"The weather during August has continued hot and dry, and trees in some districts have shown signs of suffering. Rain on the 31st was very welcome and should materially assist in maturing the big apple crop in the district. Hay crops, especially the third cutting of alfalfa, are light. Stock in the district is in excellent condition, and the range, although very dry, is evidently supplying abundant feed. Dry farmers in the district have had a trying season and much grain has been cut for hay."

Agassiz, B.C.—W. H. Hicks, Superintendent, reports:—"Conditions during August have been quite favourable for harvesting and threshing, but the dry weather of July and August hastened the maturing of the grain and reduced the yields. At the close of the month, threshing is about 50 per cent completed, with medium yields and fair samples of grain. The root and potato crops will be light, while the corn should be fair. Live stock in the district is in good condition."

Sidney, Vancouver Island, B.C.—Lionel Stevenson, Superintendent, reports:—"Dry weather has continued to be experienced during August. In this district, the cutting of grain has been completed and some stacking and threshing has been done. Yields vary from very low to very high, according to the fertility and moisture available to develop the crop. The average yield for wheat has been maintained, while oat fields have not come up to the average of the past five years. Roots, corn, and potatoes have suffered from the drought. Orchard tree fruits have not developed well; and apples, pears, and plums are under size, due to lack of soil moisture. New berry plantings have made fair development where well cared for. Pastures dried out early in the month. The third crop of alfalfa has made good growth. Mangolds and other field and garden roots grown for seed have ripened well."

Meteorological Record for August, 1919.

The records of temperature, precipitation, and sunshine at the several Experimental Farms and Stations for the month of August are given in the following table:—

Experimental Farm or Station at—	Degrees of Temperature F.			Precipitation in inches.	Hours of Sunshine.	
	High-est.	Low-est.	Mean.		Pos-sible.	Actual.
Ottawa, Ont.....	91.6	41.9	66.53	1.41	436	210.9
Charlottetown, P.E.I.....	78.0	41.0	63.92	4.13	436	209.3
Kentville, N.S.....	80.0	41.0	63.19	2.21	435	191.8
Nappan, N.S.....	80.0	38.0	63.17	1.28	437	200.8
Fredericton, N.B.....	82.0	39.0	64.00	1.85	437	163.3
Ste. Anne de la Pocatière, Que.....	80.8	34.8	58.10	3.68	440	190.5
Cap Rouge, Que.....	81.0	43.2	63.39	3.39	437	207.7
Lennoxville, Que.....	83.0	35.0	62.19	3.59	436	196.8
Brandon, Man.....	98.0	33.0	64.80	1.38	447	250.6
Indian Head, Sask.....	95.0	38.0	65.06	1.89	448	267.7
Rosthern, Sask.....	92.6	37.4	64.29	1.48	446	268.9
Scott, Sask.....	90.5	39.0	62.90	2.56	446	267.6
Lacombe, Alta.....	82.7	32.0	58.68	1.64	455	245.0
Lethbridge, Alta.....	96.0	38.0	64.64	1.05	446	301.1
Invermere, B.C.....	89.0	35.0	60.50	2.42	449	269.5
Summerland, B.C.....	93.0	51.0	68.83	0.34	447	282.2
Agassiz, B.C.....	86.0	46.0	63.85	0.45	445	191.5
Sidney, Vancouver I., B.C.....	85.0	40.0	60.50	0.06	444	312.2

Ottawa, September 16th, 1919.

E. S. ARCHIBALD,
Director Experimental Farms.

CROP REPORTS FROM OTHER COUNTRIES.

England and Wales.—The Board of Agriculture reported (September 1) that the warm and dry weather during the early part of August was very favourable to the harvesting of the crops, and much grain was cut and secured in good condition. The wet weather at the end of the month delayed the work, but has not done much damage to the grain. There has been some slight improvement in the general condition of the grain crops during the month, but all are below the average. Wheat is the best of the three cereals, but is some 8 p.c. lighter than usual. Barley has slightly improved, but the yield is expected to be some 13 p.c. below the normal, while oats have gone back, and are the worst of the cereals, being more than 20 p.c. under average. All crops are short in the straw. Much progress has been made with the cutting and carting of wheat and oats, but that of barley is not so advanced. Beans have fallen off a little during the month, while peas have somewhat improved. Potatoes have also slightly improved with the recent rains, and the plant is healthy, very few reports of disease being received, but the yield on the whole will be lighter than usual, about 9 p.c. below the average. Although the root crops have benefited by the rain, there has not been sufficient moisture to overcome the serious effects of the earlier drought. Turnips and swedes, as also mangolds, are backward and irregular

in plant, and the yield of all roots is likely to be about 20 p.c. less than usual. Summarizing the returns, and expressing an average crop by 100, the appearance of the crops on September 1, indicated probable yields which may be expressed by the following percentages: Wheat 92, barley 87, oats 78, beans 91, peas 92, potatoes 91, turnips and swedes 79, mangolds 78, hops 106.

United States.—The Crop-Reporting Board of the United States Department of Agriculture issued (September 8) estimates of the yield of the principal field crops, as follows:—

Crops.	Area.	Per cent of 1918.	Yield per acre.			Yield in millions of bushels.			
			1918.	1919. ¹	Average 1913-1917.	1918.	August forecast 1919. ¹	Sept. forecast 1919. ¹	Average 1913-1917.
	000 acres.	p.c.	bush	bush.	bush.	bush.	bush.	bush.	bush.
Winter wheat...	—	—	15.2	14.6 ²	16.1	558	715 ²	715 ²	555
Spring wheat....	22,593	100.8	16.0	9.2	12.9	359	225	208	236
All wheat.....	71,526	121.0	15.5	12.9	15.0	917	940	923	791
Corn.....	102,977	95.8	24.0	27.8	25.6	2,583	2,788	2,858	2,749
Oats.....	42,365	95.4	34.6	28.9	32.7	1,538	1,266	1,225	1,331
Barley.....	8,899	91.9	26.5	21.9	25.8	256	204	195	199
Rye.....	6,576	104.8	14.4	12.9 ²	16.0	90.2	84.6 ²	84.6 ²	50
Buckwheat.....	840	90.9	16.5	20.5	17.9	17.2	16.1	17.2	14.7
White potatoes..	4,003	95.1	95.0	87.2	95.7	400	357	349	366
Sweet potatoes..	1,023	111.0	93.6	98.1	94.9	86.3	100	100	69.2
Flax.....	1,851	95.5	7.6	5.5	8.1	14.7	10.2	10.2	13.8
Hay (all).....	69,719	97.8	ton	ton	tons	tons	tons	tons	tons
			1.27	1.47 ¹	1.51	90.4	111	102 ²	96.9
Tobacco.....	1,774	114.5	lb.	lb.	lb.	lb.	lb.	lb.	lb.
			865.1	720.9	808.9	1,340	1,335	1,279	1,091

¹Interpreted from condition reports.

²Preliminary estimate.

The condition of spring wheat on September 1, 1919, or at the time of harvest, was 48.5 p.c. of the normal, as compared with 82.1 p.c. last year and 73.9 p.c. the ten-year average. Corn is 80 p.c., as compared with 67.4 p.c. last year and 73.6 p.c. the average; oats are 73.1 p.c., as compared with 84.4 p.c., last year and 81.8 p.c., the average; barley is 69.2 p.c., as against 81.5 p.c. last year and 78.7 p.c. the average. Of other crops the condition on September 1 was as follows: Buckwheat 90.2, against 83.3 and 84.2, white potatoes 69.5, against 74.5 and 75.1; sweet potatoes 86, against 74.5 and 82.2; tobacco 71.8, against 82.5 and 78.9; flax 50.5 against 72.6 and 73.5; rice 91.9, against 83.7 and 78.9; sugar beets 79, against 86.8 and 89.5. The total yield of wheat is estimated at 923,000,000 bushels, as compared with 917,000,000 bushels in 1918 and 791,000,000 bushels, the average for the years 1913-17. The yield of corn is estimated at 2,858,000,000 bushels, as compared with 2,583,000,000 bushels in 1918 and 2,749,000,000 bushels, the average of the years 1913-17.

FIELD CROPS OF THE UNITED KINGDOM, 1918.

Vol. LIII, Part II, of the Agricultural Statistics of England and Wales [Cd. 9,089, dated June 23, 1919, gives the final returns of the acreage and yield of field crops in the United Kingdom for the year 1918, exclusive of the Channel Islands and the Isle of Man, as follows:

Crops.	1917.	1918.	1917.	1918.	1917.	1918.	Average of the ten years 1908-17.
	acres	acres	bush.	bush.	bush. per acre.	bush. per acre.	bush. per acre.
Wheat.....	2,103,498	2,793,049	64,322,816	93,144,000	30.6	33.3	31.4
Barley.....	1,796,066	1,838,356	57,478,744	62,080,000	32.0	33.8	33.6
Oats.....	4,763,989	5,603,421	208,167,272	249,568,000	43.7	44.5	42.4
Beans.....	210,899	251,222	3,792,648	7,450,400	18.0	29.7	28.9
Peas.....	103,294	128,364	2,225,128	3,525,360	21.5	27.5	25.5
Potatoes.....	1,364,967	1,505,176	321,209,280	344,325,000	235.2	227.7	216.5
Turnips&swedes	1,676,888	1,600,732	927,420,405	852,507,000	552.9	533.9	545.1
Mangolds.....	482,942	499,938	387,110,677	385,317,000	801.5	769.1	728.0
			tons.	tons.	tons.	tons.	tons.
Hay ¹	3,095,653	2,803,413	5,301,210	4,920,000	1.7	1.8	1.8
Hay ²	6,494,428	5,950,352	9,440,820	8,892,000	1.4	1.5	1.6
			cwt.	cwt.	cwt.	cwt.	cwt.
Hops.....	16,946	15,666	247,205	146,000	14.6	9.3	11.2

¹Clover, Sainfoin, etc. ²Permanent grass.

NOTE.—The ton = 2,000 lb. and the cwt. = 100 lb.

In 1913 the acreage under wheat in the United Kingdom was 1,791,569; in 1918 the acreage was 2,793,049, an increase of 1,001,480 acres, or 56 p.c. during the five years of war. Oats increased from 3,983,448 acres in 1913 to 5,603,421 acres in 1918 and potatoes from 1,184,857 acres in 1913 to 1,505,176 acres in 1918. The total yield of wheat in 1918 was one of the best on record being 93,144,000 bushels as compared with 64,322,816 bushels in 1917.

The natural weights per measured bushel of wheat, barley and oats in England and Wales were in 1918 as follows, with the figures of 1917 in brackets for comparison: Wheat 62.2 lb. (61.2 lb.); barley 53.8 lb. (53.2 lb.); oats 39.3 lb. (37.9 lb.).

The report compares the harvests of grain during the war as follows:

Crops.	1914.	1915.	1916.	1917.	1918.
	000 bush.	000 bush.	000 bush.	000 bush.	000 bush.
Wheat.....	62,432	73,912	59,776	64,322	93,144
Barley.....	64,528	46,896	52,904	57,480	62,080
Oats.....	165,312	178,464	170,672	208,168	249,568
Beans.....	8,960	7,392	7,136	3,792	7,448
Peas.....	2,992	2,400	2,088	2,224	3,528

The average yield per acre of the same crops for the same years was as follows:

Crops.	1914.	1915.	1916.	1917.	1918.	Average 1914-18.
	bush. per acre.	bush. per acre.	bush. per acre.	bush. per acre.	bush. per acre.	bush. per acre.
Wheat.....	32.8	31.7	29.1	30.6	33.3	31.5
Barley.....	34.5	30.8	32.0	32.0	33.8	32.6
Oats.....	42.6	42.9	41.2	43.7	44.5	43.0
Beans.....	30.7	28.0	30.4	18.0	29.7	27.4
Peas.....	23.0	24.4	24.4	21.5	27.5	24.2

Proceeding, the report states that the grain harvest of 1918 was on the whole the best of the five, that of 1914 being the next best. When it is remembered that in 1917, and still more in 1918, not only was a considerable area of land, presumably less suitable for grain growing, brought back into arable cultivation, but also the shortage of labour and the scarcity of fertilizers were more acute than in the previous years, the result was highly satisfactory. It affords evidence, if such were needed, that a good or bad harvest is dependent not only on human effort but in a still greater degree on the natural conditions of the season.

FIXATION OF WHEAT PRICES IN CANADA, 1919-20.

By Order in Council of July 31, 1919, authority was given for the appointment of the Canadian Wheat Board with powers to purchase, sell, store, transfer and export wheat and to make regulations for the sale of wheat. Under regulations since issued by the Board the following prices per bushel have been fixed as cash payments to the producer from August 16, 1919, to July 31, 1920, or such other later date as may be ordered by the Board.

British Columbia Wheat (basis in store at Canadian Government Elevator, Vancouver).

Grade.	Price.	Grade.	Price.
	\$ c.		\$ c.
No. 1.....	2 10½	Smutty No. 1.....	2 01½
No. 2.....	2 07½	“ No. 2.....	1 98½
No. 3.....	2 03½	“ No. 3.....	1 94½
Rejected No. 1.....	1 99½	No Grade Tough No. 1.....	2 04½
“ No. 2.....	1 96½	“ “ No. 2.....	2 01½
“ No. 3.....	1 91½	“ “ No. 3.....	1 97½

Manitoba, Saskatchewan and Alberta Wheat (basis in store public terminal elevators, Fort William and Port Arthur).

Grade.	Price.	Grade.	Price.
	\$ c.		\$ c.
No. 1 Hard.....	2 15	Smutty No. 2 Northern.....	2 03
No. 1 Manitoba Northern.....	2 15	“ No. 3 “.....	1 99
No. 2 “ “.....	2 12	No Grade Tough No. 1 Northern	2 09
No. 3 “ “.....	2 08	“ “ No. 2 “.....	2 06
No. 1 Alberta Red Winter.....	2 15	“ “ No. 3 “.....	2 02
No. 2 “ “.....	2 12	“ “ No. 1 Alberta	
No. 3 “ “.....	2 08	Red Winter..	2 09
Special No. 4.....	2 02	“ “ No. 2 “.....	2 06
“ No. 5.....	1 91	“ “ No. 3 “.....	2 02
“ No. 6.....	1 81	No. 1 Durum.....	2 05
Rejected No. 1 Northern.....	2 04	No. 2 “.....	2 02
“ No. 2 “.....	2 01	No. 3 “.....	1 98
“ No. 3 “.....	1 96	No Grade Tough No. 1 Durum..	1 99
Smutty No. 1 Northern.....	2 06	“ “ No. 2 “.....	1 96
		“ “ No. 3 “.....	1 92

Ontario and Quebec Wheat (basis in store, Montreal.)

Grade.	Price.	Grade.	Price.
	\$ c.		\$ c.
No. 1 Spring.....	2 18	No Grade Tough No. 1 Spring.....	2 12
No. 2 “.....	2 15	“ “ No. 2 “.....	2 09
No. 3 “.....	2 11	“ “ No. 3 “.....	2 05
No. 1 White Winter.....	2 18	“ “ No. 1 White Winter..	2 12
No. 2 “.....	2 15	“ “ No. 2 “.....	2 09
No. 1 Red Winter.....	2 18	“ “ No. 1 Red Winter...	2 12
No. 2 “.....	2 15	“ “ No. 2 “.....	2 09
No. 3 Winter.....	2 11	“ “ No. 3 Winter.....	2 05
No. 1 Mixed Winter.....	2 16	“ “ No. 1 Mixed Winter..	2 10
No. 2 “.....	2 13	“ “ No. 2 “.....	2 07
No. 1 Goose.....	2 12	“ “ No. 1 Goose.....	2 06
No. 2 “.....	2 09	“ “ No. 2 “.....	2 03
No. 3 “.....	2 05	“ “ No. 3 “.....	1 99

Other regulations governing freight charges and insurance have also been issued by the Canadian Wheat Board.

BRITISH IMPORTS OF BUTTER AND CHEESE.

Messrs. W. Weddel & Co., Ltd., have issued their 25th Annual Review of the Imported Dairy Produce Trade, covering the year ended June 30, 1919. After a general retrospect of the existing situation, in which it is stated that the British Ministry of Food will continue to regulate the supplies, prices and distribution of essential food-stuffs, and that the articles so controlled will probably comprise bread, bacon, cheese, margarine, fish, meat, milk, butter, sugar, and eggs, the opinion is expressed that prices for all foodstuffs will probably continue high for many months to come, but that there need be no undue apprehension in regard to a shortage of supplies.

Butter.—Imports of butter into the United Kingdom from all sources during the period under review aggregated only 70,775 tons

against an average importation of 210,000 tons before the war. Simultaneously the home supply has not increased, and it is manifest that margarine has saved the situation for Britain. Butter has been more or less under Government control now ever since March, 1917, and, judging from the present outlook, the control is likely to continue for some time to come. Up to October 14th, 1918, the distribution of butter was effected on the original scheme adopted by the late Lord Rhondda—which was based on the 1916 returns—the Government distributing their stocks to traders pro rata to the latter's sales during 1916. The retail price of Government butter was reduced from 2s. 6d. to 2s. 4d. per lb. during July, August and the first half of September, 1918, whilst the wholesale price was reduced from 252s. to 233s. 4d. per cwt. On and after September 16th, 1918, the retail and wholesale prices reverted to 2s. 6d. per lb. and 252s. per cwt., respectively. In October, 1918, under the Revised Butter Distribution Scheme, the public became entitled to 1 oz. of butter and 4 ozs. of margarine per head per week, and the retail price of all butter, including British-made, was standardised at 2s. 6d. per lb. In May, 1919, the butter ration was increased to 2 ozs. per head of the population, but it is likely to be reduced again in the autumn and winter months to $1\frac{1}{2}$ or even 1 oz., as imported supplies will hardly allow of a larger ration, owing to the scarcity, or incomplete control of shipping; and the public will have to fill up the gap with margarine.

The Government have bought the whole exportable surplus from New Zealand and Australia for the seasons 1918-19 and 1919-20, and are reported to have paid 181s.-f.o.b. for first grade N.Z., and 175s.-f.o.b. for first grade Australian, with second and third grades at proportionate rates. Purchases have also been made from the Argentine at 170s.-f.o.b., and from South Africa at 175s.-f.o.b., whilst considerable quantities of American butter have also been contracted for on Government account. Very large quantities of Irish butter have also come through the pool, the Government having bought the whole of the 1918 and 1919 exportable surpluses. Negotiations are also proceeding for the purchase of considerable quantities of butter from Denmark and Holland, although in the case of the latter country it is not anticipated that there will be much, if any, exported. Canada will probably export some quantity, but there will be little or no butter from Siberia, and exports from France are prohibited. If the Central Empires can find the money they will probably take considerable quantities of Danish and Dutch butter, and also Siberian if any is available, or indeed any kind of butter.

The quality of some of the Government butter has been very unsatisfactory, and a great deal of dissatisfaction has been caused by the flat wholesale rate of 252s.-per cwt. for good, bad and indifferent qualities. Owing to short supplies and a preponderance of inferior quality goods, the Government have from time to time been obliged to deliver blended butter to the trade, and a proportion of this has been hardly fit for counter trade. New Zealand and Australia

have kept their average quality well up to their usual high standard. There have been a good many complaints in regard to the quality of Argentine butter, large quantities of which have from time to time been placed in cold stores. Apparently, this butter does not keep nearly so well as Australian or New Zealand, and in some instances mould has developed during the voyage, especially in the case of the unsalted brands. French butter has been practically off the market, all being required last year for the forces in France or for local requirements. Little or no Danish butter has been received until quite recently, but fair arrivals of this popular article are expected from now onwards. The quality of a good deal of the Irish butter received last year left much to be desired, and not a few of the factories were penalized for exceeding the legal amount of moisture. Unfortunately, owing to adverse climatic conditions, the quantity of butter shipped to this country from South Africa during 1918-19 has been almost negligible, but the quality of the small lots received has been fairly uniform and satisfactory.

Reviewing the world's position of butter in the light of to-day, it certainly looks as though it might be nearly two years before conditions revert to anything like a normal level, and as long as the present scarcity of butter continues some sort of control may be thought necessary, if only to ensure equitable distribution. Prices are not likely to become lower under control. An interesting point in connection with butter control in Europe is the fact that the price of butter in England is 2s. 6d. per lb.; in France, 3s. 6d. per lb.; in Italy, about 5s.; in Sweden, about 3s. 6d. to 3s. 8d.; in Switzerland, about 3s.; and in Germany, about 6s. Margarine also is cheaper in England than in any other European country.

Table I shows the imports of butter into the United Kingdom in long tons by principal countries for the seven years ended June 30, 1919.

I. British Imports of Butter by Principal Countries, 1913-19.

Countries whence imported.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
	tons.	tons.	tons.	tons.	tons.	tons.	tons.
Canada.....	—	41	443	1,188	5,360	1,266	3,415
Australia.....	26,414	26,076	21,848	6,363	28,012	27,067	16,342
New Zealand.....	13,416	16,609	17,920	18,371	16,639	17,841	18,179
South Africa.....	—	—	—	—	1,836	766	845
Total British.....	39,830	42,726	40,211	25,922	51,847	46,940	38,781
Argentina.....	4,400	2,358	4,314	5,791	5,041	13,199	16,646
Denmark.....	82,546	88,935	82,258	54,662	50,445	9,237	2,856
France.....	13,167	11,328	17,651	12,748	4,565	1,448	47
Holland.....	6,584	7,572	7,452	640	4,411	1,557	82
Norway.....	1,211	778	2,580	1,087	6	—	—
Russia.....	35,194	41,056	26,537	41,723	—	—	—
Sweden.....	16,000	17,996	7,993	2,898	2	—	—
Other countries.....	378	665	1,394	2,880	7,374	6,543	12,343
Total foreign.....	159,480	170,708	150,179	122,429	71,844	31,984	31,974
Grand total.....	199,310	213,434	190,390	148,351	123,691	78,924	70,755

Table II shows the average wholesale London top prices per long cwt. of salt butter of choicest quality for the seven years ended June 30, 1919.

II. Average Prices of Butter imported into the United Kingdom, 1913-19.

Description.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Australian.....	112 1	111 9	131 5	153 3	197 10	252 0	248 5
New Zealand.....	117 4	116 3	136 5	161 3	200 4	252 0	248 5
Danish, Swedish.....	127 3	125 2	143 8	173 2	207 8	252 0	248 5
Siberian.....	109 1	107 0	126 2	133 1	—	—	—
French.....	125 6	125 2	133 3	153 4	—	252 0	248 5
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Australian.....	27 27	27 19	31 98	37 29	48 14	61 32	60 45
New Zealand.....	28 55	28 29	33 20	39 24	48 75	61 32	60 45
Danish, Swedish.....	30 96	30 46	34 96	42 13	50 53	61 32	60 45
Siberian.....	26 54	26 04	30 70	32 38	—	—	—
French.....	30 54	30 46	32 42	37 31	—	61 32	60 45

Cheese.—The Ministry of Food still continues to retain partial control of the cheese trade of the country, and the Government distribution is still in force and likely to continue. As matters stand at present, there is “free” cheese and “Government” cheese, and as far as the former is concerned there are no fixed maximum prices to the importer and wholesaler, but, nevertheless, the retailer must not charge over 1s. 6d. per lb. to the public, and this practically fixed wholesale values. The price of Government cheese on the other hand is fixed at 1s. 3½d. per lb. (144s. 8d. per cwt.) to the importer and wholesaler alike, less a selling commission, and for cheese bought on this basis the gross profit to the retailer, selling at 1s. 6d. per lb. is 2½d. per lb. The Government stocks have comprised British-made cheese, Canadian, American, New Zealand, Australian and South African, and, although they have recently allowed the free importation of Canadian, States, Dutch, and other varieties, it is not at all improbable that these concessions will be withdrawn at an early date, and full Government control be established once more. Retail grocers all over the country are very disastisfied with the policy of partial control, and argue that if the Government is compelled to control the retail price of any article, they must, in all fairness, control prices at all the other stages. Unfortunately, this is impracticable, even if the Government buys all imports, as the country depends so largely on outside sources for supplies, and import prices are regulated by a variety of circumstances which are impossible to control, such as competition from other countries, fluctuations in the rate of exchange, etc. Take the case of America, from whom are obtained enormous quantities of bacon, lard, and other articles, is it likely that merchants in that country will sell to Britain at less money than they can obtain from other countries such as Germany France, Denmark, Holland, Sweden, etc.? To ask the question is to answer it.

Before the signing of the Armistice on November 11, 1918, the Government completed the purchase of the whole of the exportable cheese surplus from New Zealand and Australia, for the seasons 1918-19, and 1919-20, at 10½d. f.o.b. They also bought the exportable surplus from South Africa at the same price. At the time these purchases were made, they gave rise to a good deal of adverse criticism, as they set the pace for the world's markets; but subsequent events have justified the purchases, and cheese to-day, at 1s. 6d. per lb. retail, is one of the cheapest foods on the market. Early in 1919, the Ministry of Food entered into negotiations to purchase cheese from Canada, and could have secured the whole of the exportable surplus for the present season at a reasonable price, but for some reason as yet unexplained, the transaction was not completed. The price paid by the Government for New Zealand and Australian cheese works out at 1s. 1d. per lb. landed terms, or, say, 120s. per cwt. c.i.f. British port, whereas, Canadian cheese has been sold freely during May and June at prices ranging from 150s. up to 160s. per cwt. c.i.f. British port. British-made cheese has also been controlled, and although there have been rumours for some time past that it is the intention of the Government to release control shortly, nothing has yet transpired. The Ministry of Food has also imported considerable quantities of States and Dutch cheese, all of which have gone into the pool for general distribution at the fixed prices named above. The quality of a good deal of the American cheese was far from satisfactory, and several shipments last year arrived in a very heated and damaged condition.

Tables III and IV give the British imports in long tons and the average prices per long cwt. of imported Cheddar cheese of choicest quality for the seven years ended June 30, 1919.

III. British Imports of Cheese, 1913-19.

Countries whence imported.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
	tons.	tons.	tons.	tons.	tons.	tons.	tons.
Canada.....	66,424	60,763	62,192	70,341	88,485	71,627	48,513
Australia.....	238	1,067	1,048	—	2,214	3,304	4,722
New Zealand.....	29,489	33,856	32,515	32,563	24,039	35,417	37,347
South Africa.....	—	—	—	—	24	—	776
Total British.....	96,151	95,686	95,755	102,904	114,762	110,348	91,358
Holland.....	14,044	14,882	14,940	1,870	14,318	7,490	4,113
Italy.....	4,897	5,455	4,599	2,397	409	—	—
Switzerland.....	606	641	263	325	108	—	—
United States.....	842	1,169	15,106	19,279	14,485	14,325	11,837
Other countries.....	856	1,062	657	471	301	100	800
Total foreign.....	21,245	23,209	35,565	24,342	29,621	21,915	16,750
Grand total.....	117,396	118,895	131,320	127,246	144,383	132,263	108,108

IV. Average Wholesale London Top Prices of Cheddar Cheese, 1913-19.

(Per long cwt.)

Cheese.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Canadian.....	64 3	68 3	83 8	94 0	131 0	130 8	155 4
New Zealand.....	62 6	66 0	84 7	93 7	101 9	130 8	155 4
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Canadian.....	15 63	16 61	20 36	22 87	31 88	31 80	37 80
New Zealand.....	15 21	16 06	20 58	22 77	24 76	31 80	37 80

Margarine.—During the past twelve months, the margarine trade has experienced some changes and noteworthy developments. In pre-war years, enormous quantities of margarine were imported into this country from Holland, France, and other countries, but the policy adopted by the Government in the control of margarine has been of such a nature that imports from foreign countries have now entirely ceased. A necessary but undesirable feature introduced by the Government was the standardising of the quality of all margarine on a uniform basis. As part of the State policy, a department was set up under the title of the Margarine Clearing House, to take over the whole of the manufactured supplies and distribute same through the wholesale and retail channels to the public. Moreover the price of raw materials, the cost of production at the factory, the remuneration to wholesalers and retailers, the districts served, and the price charged to the public, as well as the quantity each person was entitled to purchase, were all fixed and regulated by the Ministry of Food. The effect of the war upon the margarine trade ought to be advantageous to it, as everybody has been obliged to use a certain quantity of margarine owing to the shortage of butter, and much of the prejudice which formerly existed in regard to margarine has now disappeared. In February, the Ministry of Food decided to take off the control of margarine, except that the maximum retail price was fixed at 1s. per lb., and owing to the fierce competition which immediately set in, and to the price-cutting tactics of some of the large multiple shop concerns, the retail price dropped to as low as 8d. per lb. for a few weeks. This state of affairs, however, only lasted for a short time, as manufacturers were obliged to raise prices to the wholesale and retail trade, owing to the increased cost of raw materials, and prices quickly reverted to the old control level of 1s. per lb. Early in June, the Ministry of Food entirely withdrew its control from margarine, and there is now no longer a maximum price to the public nor to the trader; but in the meantime the Ministry of Food had established a system of conferences with representatives of the trade, who gave the Government an undertaking not to raise prices without consultation with the Ministry of Food, and so far this arrangement appears to be working very satisfactorily. Owing to competition, the large multiple shop concerns throughout the country are still selling at 1s. per lb., but generally speaking the smaller retailer is making 1s. 2d. per lb. The demand for margarine will naturally be affected by the supplies of butter, but, with restricted

transport, the quantities of the latter article are likely to be limited and prices high, so that margarine should benefit accordingly.

THE WEATHER DURING AUGUST.

The Dominion Meteorological Office reports that in British Columbia the temperature was average or a little below in the north and west parts, and above elsewhere; in the western provinces everywhere above; also in Ontario, except in the northeast portion, and average or below in Quebec and the Maritime Provinces. The chief positive departures were 5 at Prince Albert and Calgary, and 4 at Medicine Hat, Swift Current and Port Arthur, whereas the largest negative departures were 3 at Yarmouth and Halifax, and 2 at St. John and Sydney. The rainfall over the Dominion was very unevenly distributed. In British Columbia it was for the most part very light; in the western provinces it varied, some sections recording over three inches, while others had less than one inch. In Ontario it ranged from less than two inches in some places to over six in others; this was especially noticeable in the Peninsula, and from the Nipissing district northward. Cochrane recorded over six inches, an excessive amount for that place. In Quebec the fall was from a little over one inch to about four inches; while in the Maritime Provinces it ranged from less than two inches, very locally, to over eight inches in some districts. The great discrepancies in the amounts of rain over given areas were largely attributable, no doubt, to heavy local thunderstorms, which were frequently recorded.

PRICES OF AGRICULTURAL PRODUCE, 1919.

I. Weekly Range of Cash Prices per bushel of Canadian Grain at Winnipeg and Fort William, 1919.

(Furnished by the Board of Grain Commissioners for Canada, Fort William, Ont.)

Grain and Grade.	August 2.		August 9.		August 16.		August 23.		August 30.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—										
No. 1 Nor.....	2 24½	—	2 24½	—	2 24½	—	2 15½	—	2 15	—
No. 2 Nor.....	2 21½	—	2 21½	—	2 21½	—	2 12½	—	2 12	—
No. 3 Nor.....	2 17½	—	2 17½	—	2 17½	—	2 08½	—	2 08	—
No. 4.....	2 11½	—	2 11½	—	2 11½	—	—	—	—	—
No. 5.....	1 99½	—	1 99½	—	1 99½	—	—	—	—	—
No. 6.....	1 90½	—	1 90½	—	1 90½	—	—	—	—	—
Feed.....	1 75	—1 80	1 81	—1 82	1 82	—	1 82	—	1 67	—
Oats—										
No. 2 C.W.....	0 87½	—0 94	0 83½	—0 91½	0 88½	—0 92½	0 89½	—0 91	0 88½	—0 90½
No. 3 C.W.....	0 84½	—0 91	0 80½	—0 89½	0 88½	—0 91½	0 88½	—0 90	0 87½	—0 88½
No. 1 Feed Ex.....	0 84½	—0 91	0 81½	—0 89	0 86½	—0 91½	0 88½	—0 90	0 87½	—0 88½
No. 1 Feed.....	0 82½	—0 89	0 79	—0 88½	0 85½	—0 90½	0 87½	—0 89	0 86½	—0 87½
No. 2 Feed.....	0 79½	—0 86	0 76½	—0 80½	0 83½	—0 88½	0 85½	—0 87	0 83½	—0 85½
Barley—										
No. 3 C.W.....	1 36½	—1 43½	1 32½	—1 44½	1 35½	—1 40½	1 35	—1 38	1 33½	—1 36½
No. 4 C.W.....	1 31½	—1 38½	1 27½	—1 39½	1 32	—1 35½	1 31½	—1 33	1 28½	—1 32½
Rejected.....	1 25½	—1 32	1 21	—1 31	1 24	—1 27½	1 23½	—1 25½	1 21½	—1 24½
Feed.....	1 25½	—1 32	1 21	—1 31	1 24	—1 27½	1 23½	—1 25½	1 21½	—1 24½
Flax—										
No. 1 N.W.C.....	5 80	—6 25	6 00	—6 05	6 05	—	6 00	—	5 20	—6 00
No. 2 C.W.....	5 77	—6 22	5 95	—	—	—	5 75	—	5 00	—5 50
No. 3 C.W.....	5 10	—5 50	4 92	—5 09	4 90½	—5 00½	4 91	—5 09	4 52	—4 85

¹These prices are the minimum basis fixed by the Canadian Wheat Board.—Regulation No. 5.

II. Monthly Range of Prices per bushel of Grain at Selected Markets in the United States, 1919.

(From the Monthly Crop Report of the United States Department of Agriculture.)

Grade and Market.	May.		June.		July.		August.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat, Red Winter, No. 2—								
St. Louis.....	2 45	—2 78	2 35	—2 47	2 21	—2 42	2 21	—2 24½
Chicago.....	2 68	—2 78½	2 32	—2 46	2 23	—2 29	2 23	—2 27½
New York (f.o.b. afloat).....	2 38	—	2 38	—	2 38	—	2 38	—
Corn, No. 2, mixed—								
St. Louis.....	1 66	—1 80	1 74	—1 85	1 81½	—2 04	1 88	—2 00
Corn, No. 2—								
Chicago.....	1 60½	—1 85	1 71	—1 85½	1 79½	—2 10	1 83	—2 10
Oats, No. 2.								
St. Louis.....	0 67	—0 72	0 66	—0 71	0 70½	—0 83	0 67½	—0 76½
Chicago.....	0 67½	—0 74½	0 67½	—0 74	—	—	0 70¼	—0 80¾
Rye, No. 2—								
Chicago.....	1 45½	—1 73	1 38¼	—1 53½	1 62	—1 64½	1 44½	—1 64½

III. Prices of Imported Grain and Flour at British Markets, 1919.

Description.	August 4.	August 11.	August 18.	August 25.
	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—				
Canadian No. 1.....	2 51	2 51	2 51	2 29½
Canadian No. 2.....	2 48½	2 48½	2 48½	2 26½
Canadian No. 3.....	2 48	2 48	2 48	2 23½
American Spring.....	2 51	2 51	2 51	2 25
American Hard Winter.....	2 51	2 51	2 51	2 29½
American Red Winter.....	2 48	2 48	2 48	2 23½
Australian.....	2 53½	2 53½	2 53½	2 32½
Argentine.....	2 49½	2 49½	2 49½	2 26½
Oats—				
Canadian.....	1 62½	1 62½	1 62½	1 64½
American.....	1 57½	1 57½	1 57½	1 59
Chilian.....	1 62½	1 62½	1 62½	1 64½
Argentine.....	1 60½	1 60½	1 60½	1 61½
Flour—				
Canadian Spring.....	11 25	11 25	11 25	11 25
American Spring.....	11 25	11 25	11 25	11 25
American Winter.....	11 25	11 25	11 25	11 25
Australian.....	11 25	11 25	11 25	11 25

LIVERPOOL.

Description.	August 5.	August 12.	August 19.	August 26.
	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—				
Nor. Man. No. 1.....	2 52½	2 52½	1 94½	1 92½
Nor. Man. No. 2.....	2 52½	2 52½	—	—
Nor. Man. No. 4.....	2 52½	2 52½	—	—
Red Winter No. 1.....	2 52½	2 52½	1 92	1 89½
Spl. Red Winter, new.....	2 52½	2 52½	—	—
Australian.....	2 52½	2 52½	1 96½	1 94½

IV. Average Prices of British-grown Grain, 1919.

(From the "London Gazette," as published pursuant to s. 8 of the Corn Returns Act, 1882.)

Week ended.	Wheat.		Barley.		Oats.	
	per quarter.	per bushel.	per quarter.	per bushel.	per quarter.	per bushel.
	s. d.	\$ c.	s. d.	\$ c.	s. d.	\$ c.
August 2.....	73 3	2.228	62 10	1.833	50 3	1.332
" 9.....	73 4	2.231	73 8	2.051	55 6	1.471
" 16.....	73 3	2.228	75 2	2.195	61 4	1.625
" 23.....	73 10	2.246	83 4	2.433	62 0	1.643
" 30.....	73 3	2.228	86 7	2.527	61.10	1.639
Average.....	73 5	2.232	76 4	2.208	58 2	1.542

SCHEME OF CROP-REPORTING, 1919-20

December.—Final estimates of yields per acre based upon reports of threshing results. Average market prices and weight per measured bushel of cereals.

January.—Farm values, including values of farm land, wages of farm help and values of farm live stock.

March.—Farm products on hand and percentage of merchantable quality. Condition of live stock.

April.—Areas winter killed of fall wheat, hay and clover. Condition of the growing crops of fall wheat and of hay and clover. Progress of seeding operations (Spring wheat, oats and barley). Dates of sowing and of appearance of wheat above ground.

May.—Preliminary estimate of areas, sown to spring wheat oats, barley, rye, peas, mixed grains, hay and clover, alfalfa and pastures. Condition of these crops and also of fall wheat. Dates of sowing and of appearance of wheat above ground.

June.—Revised estimate of areas sown to spring wheat, oats, barley, rye, peas, mixed grains, hay and clover, alfalfa and pastures. Condition of these crops and of fall wheat. Areas of late-sown cereals and hoed crops, including buckwheat, flax, corn for husking, beans, potatoes, turnips, sugar beets, mangolds, carrots, etc., and corn for fodder. Dates of sowing and of appearance above ground of wheat. Dates of heading, flowering and milk-stage of wheat.

July.—Preliminary estimate of the yield per acre of fall wheat, hay and clover and alfalfa. Condition of spring wheat, oats, barley, rye, peas, beans, buckwheat, mixed grains, flaxseed, corn for husking, potatoes, turnips, mangolds, carrots, etc., hay and clover, alfalfa, corn for fodder, sugar beets and pasture. Dates of heading, flowering, milk-stage and cutting of wheat.

August.—Estimate of the yield per acre of spring wheat, rye, oats, barley and flax. Estimate of areas sown to these cereals that from any cause will not produce a crop. Condition of spring wheat, oats, barley, rye, beans, buckwheat, mixed grains, flaxseed, corn for husking, potatoes, turnips, mangolds, carrots, etc., hay and clover, alfalfa, corn for fodder, sugar beets and pasture. Dates of heading, flowering, milk stage and cutting of wheat. Stocks of wheat, oats and barley in hand on August 31.

PUBLICATIONS
OF THE
Department of Trade and Commerce

ANNUAL REPORT OF THE DEPUTY MINISTER.

MAIL SUBSIDIES AND STEAMSHIP SUBVENTIONS (Annual).

BOARD OF GRAIN COMMISSIONERS FOR CANADA (Annual).

RULES AND REGULATIONS OF THE BOARD OF GRAIN COMMISSIONERS (Annual).

LIST OF LICENSED ELEVATORS, ETC.

GRAIN INSPECTION IN CANADA, (1914).

WEEKLY BULLETIN, containing Reports of Trade Commissioners and other Commercial Information.

PATENT OFFICE RECORD (WEEKLY).

RULES AND FORMS OF THE CANADIAN PATENT OFFICE.

CANADA AND THE BRITISH WEST INDIES (1915).

CANADA THE COUNTRY OF THE TWENTIETH CENTURY (1915) 75c., \$1.00.

HANDBOOK FOR EXPORT TO SOUTH AMERICA (1915).

TRADE WITH CHINA AND JAPAN (1914).

REVIEW OF COMMERCIAL INTELLIGENCE SERVICE (1916).

RUSSIAN TRADE (1916).

DIRECTORY OF RUSSIAN IMPORTERS (1915).

THE GERMAN WAR AND ITS RELATION TO CANADIAN TRADE (1914).

TOY MAKING IN CANADA (1916).

THE TIMBER IMPORT TRADE OF AUSTRALIA (1917).

FOOD INSPECTION BULLETINS.

TRIAL SHIPMENT OF WHEAT, from Vancouver via the Panama Canal to the United Kingdom.

GAS AND ELECTRICITY (Annual).

WEIGHTS AND MEASURES (Annual).

For List of Publications of the Dominion Bureau of Statistics, see page iv of cover.

PUBLICATIONS

OF THE

DOMINION BUREAU OF STATISTICS.

THE CANADA YEAR BOOK, 1918, with Map of Canada and Newfoundland, a Statistical Summary of the Progress of Canada, Frontispiece and numerous other illustrations. (Jubilee Volume). pp. 1-xvii, 1-686.

Contents: I The Story of Confederation, by Sir JOSEPH POPE, K.C.M.G., C.V.O. I.S.O., Under Secretary of State for External Affairs, Ottawa, with 2 illustrations; II Chronological History of Canada, 1497-1918; III Fifty years of Canadian Progress, 1867 to 1917, by ERNEST H. GODFREY, F.S.S., Editor, Dominion Bureau of Statistics, Ottawa; IV Physical Characteristics of Canada, including Geographical Features; Economic Geology in Canada, 1918, by WYATT MALCOLM, Department of Mines, Ottawa; V Area and Population; VI Education; VII Climate and Meteorology, including The Climate of Canada since Confederation, by Sir FREDERIC STUPART, Director, Dominion Meteorological Service, Toronto; VIII Production: IX Trade and Commerce; X Transportation and Communications; XI Labour; XII Finance; XIII Administration; XIV Legislation in 1917 and 1918 and Principal Events of the Year 1918; XV Extracts from the Canada Gazette, 1917 and 1918.

THE CANADA YEAR BOOK. Second Series 1905-1917. [1910, 1913 and 1916-17, out of print.]

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. Nos. 1 to XIX.

REPORT OF THE FIFTH CENSUS OF CANADA, 1911.

Vol. I, 1912. Areas and Population by Provinces, Districts and Subdistricts with introduction, Tables I to XV, pp. i-viii, 1-623. [Out of print.]

Vol. II, 1913. Religions, Origins, Birthplace, Citizenship, Literacy and Infirmities by Provinces, Districts and Subdistricts, with Introduction. Tables I-XLVI, pp. i-iv, 1-634.

Vol. III, 1913. Manufactures for 1910 as enumerated in June 1911, with Introduction. Table I-XX, pp. i-xvi, 1-432. [Out of print.]

Vol. IV, 1914. Agriculture, with Introduction. Tables 1-90; I-XXXV, pp. i-xcv, 1-428. Diagrams, 5 pp. [Out of print.]

Vol. V, 1915. Forest, Fishery, Fur and Mineral Production, with Introduction. Tables 1-51; I-XXVI, pp. i-l, 1-171.

Vol. VI, 1916. Occupations of the People, with Introduction. Tables 1-25; I-VI, 1-xxxi, 1-469. [Out of print.]

REPORT OF THE CENSUS OF POPULATION AND AGRICULTURE OF THE PRAIRIE PROVINCES, 1916. January 12, 1918. Tables 1-54; I-XXVI, pp. i-lxiv, 1-356.

SPECIAL REPORT ON THE FOREIGN-BORN POPULATION. Abstracted from the Records of the Fifth Census of Canada, June 1911. 23 tables. 62 pp. 1915.

REPORT OF THE POSTAL CENSUS OF MANUFACTURES, 1916. pp. i-xi; 1-263, 1917.

REPORT ON THE CENSUS OF INDUSTRY, 1917. Part I. (AGRICULTURAL STATISTICS); Part II. (DAIRY FACTORIES); Part III. (FISHERY STATISTICS); Part IV, Section 4 (PULP AND PAPER). Other Parts in preparation.

DIRECTORY OF THE CHEMICAL INDUSTRIES IN CANADA, as of date January 1, 1919, 68 pp. 1919.

EXTERNAL TRADE: ANNUAL REPORT OF THE TRADE OF CANADA; MONTHLY REPORT OF THE TRADE OF CANADA.

INTERNAL TRADE: ANNUAL REPORT ON THE GRAIN TRADE OF CANADA; ANNUAL REPORT ON THE COAL TRADE OF CANADA; MONTHLY PRODUCE BULLETINS, showing stocks in warehouse, in transit, etc.

CRIMINAL STATISTICS. Annual Report for Year ended September 30, 1917. pp. i-li, 1-270.

CENSUS AND STATISTICS MONTHLY, Vols. 1-10, 1908-1916; Vol. 10, Nos. 101-103, 1917. MONTHLY BULLETIN OF AGRICULTURAL STATISTICS, Vols. 10 to 12, Nos. 104-133, 1917-19.

REPORT OF CONFERENCE ON VITAL STATISTICS, June 19-20, 1918, pp. 1-48, 1918.

THE BEET SUGAR INDUSTRY, Bulletin IX, with 3 illustrations, pp. 1-75, 1909.

For list of Publications of the Department of Trade and Commerce, see page iii of cover.

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VOL. 12

No. 134

CANADA
DOMINION BUREAU OF STATISTICS

Quarterly
(MONTHLY) BULLETIN
OF
AGRICULTURAL STATISTICS

October, 1919.

Published by Authority of the Right Hon. Sir George E. Foster,
G.C.M.G., M.P., Minister of Trade and Commerce.



OTTAWA

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Printer to the King's Most Excellent Majesty

1919

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MONTHLY BULLETIN OF AGRICULTURAL STATISTICS

Vol. 12

OTTAWA, OCTOBER, 1919.

No. 134

DOMINION STATISTICIAN: R. H. COATS, B.A., F.S.S. EDITOR: ERNEST H. GODFREY, F.S.S.
DOMINION BUREAU OF STATISTICS, OTTAWA, CANADA.

FIELD CROPS OF CANADA.

Report for the month ended September 30, 1919.

The Dominion Bureau of Statistics issued a bulletin to-day on the yield and condition of field crops as reported by crop correspondents at the end of September. The total yields are subject to revision after final ascertainment of the areas sown according to returns from individual farmers throughout Canada which are now in process of compilation.

YIELD OF PRINCIPAL CEREALS.

The total yield of wheat in Canada is now placed at 193,688,800 bushels, including 174,687,000 bushels of spring wheat and 19,001,800 bushels of fall wheat. Upon the acreage sown the average yield per acre is $10\frac{1}{2}$ bushels for spring wheat, $23\frac{3}{4}$ bushels for fall wheat and $11\frac{1}{4}$ bushels for all wheat. In 1918 the total yield of wheat was 189,075,350 bushels, or 11 bushels per acre. For oats the average yield per acre for Canada is 27 bushels, representing a total of 399,368,000 bushels as compared with last year's average of $28\frac{3}{4}$ bushels and a total of 426,312,500 bushels. Barley, with an average of 22 bushels, yields 66,443,500 bushels, as against last year's average of $24\frac{1}{2}$ bushels and total of 77,287,240 bushels. Rye with an average yield per acre of $14\frac{1}{2}$ bushels yields the total of 8,234,100 bushels as against $15\frac{1}{4}$ bushels and 8,504,400 bushels in 1918. The yields in 1919 for the three Prairie Provinces are estimated at 161,419,000 bushels of wheat, 246,856,000 bushels of oats, 46,412,000 bushels of barley and 5,954,000 bushels of rye.

QUALITY OF CEREALS.

The quality at harvest time of the principal grain crops for Canada, expressed in percentages of the previous ten years, is as follows: Fall wheat 96 (89), spring wheat 91 (99), all wheat 92 (98), oats 90 (94), barley 89 (97), rye 92 (92), peas 91 (95), beans 95 (82), buckwheat 96 (86), mixed grains 94 (98), flax 93 (92), and corn for husking 94 (89). The figures within brackets represent the quality of the crops in 1918.

CONDITION OF ROOT AND FODDER CROPS.

The average condition of root and fodder crops in Canada at the end of September, expressed in percentages of the decennial average, was as follows, with last year's figures for comparison placed within brackets: potatoes 95 (93), turnips, mangolds, etc. 91 (96), sugar beets 85 (97), fodder corn 95 (92), alfalfa 91 (89). By provinces, potatoes appear to be best in Quebec, 103, the other provinces ranging

as follows: Saskatchewan 97, New Brunswick and Alberta 96, Nova Scotia 94, Prince Edward Island 93, British Columbia 90, Manitoba 89 and Ontario 81. In Saskatchewan, Alberta and British Columbia the condition of the root crops shows a decided improvement at the end of September, as compared with the end of August.

ERNEST H. GODFREY,
Editor.

Dominion Bureau of Statistics,
Ottawa, October 16, 1919.

I. Comparative Quality of Cereal Crops, 1918-19.

NOTE.—100=Average weight per measured bushel, 1909-18.

Field Crops.	Sept. 30, 1918.	Sept 30, 1919.	Field Crops.	Sept. 30, 1918.	Sept. 30, 1919.
Canada—	p.c.	p.c.	Ontario=Con.	p.c.	p.c.
Fall wheat.....	89	96	All wheat.....	95	91
Spring wheat.....	99	91	Oats.....	102	83
All wheat.....	98	92	Barley.....	100	84
Oats.....	94	90	Rye.....	87	89
Barley.....	97	89	Peas.....	94	87
Rye.....	92	92	Beans.....	91	92
Peas.....	95	91	Buckwheat.....	87	94
Beans.....	82	95	Mixed grains.....	102	87
Buckwheat.....	86	96	Flax.....	99	94
Mixed grains.....	98	94	Corn for husking.....	82	93
Flax.....	92	93	Manitoba—		
Corn for husking.....	89	94	Fall wheat.....	98	95
P. E. Island—			Spring wheat.....	95	87
Spring wheat.....	103	100	All wheat.....	96	88
Oats.....	102	100	Oats.....	93	88
Barley.....	97	101	Barley.....	95	81
Peas.....	96	100	Rye.....	95	92
Beans.....	81	96	Peas.....	—	98
Buckwheat.....	88	94	Beans.....	—	100
Mixed grains.....	102	103	Mixed grains.....	78	97
Nova Scotia—			Flax.....	93	92
Spring wheat.....	100	96	Saskatchewan—		
Oats.....	101	96	Spring wheat.....	89	92
Barley.....	99	96	Oats.....	86	91
Rye.....	100	94	Barley.....	83	89
Peas.....	95	91	Rye.....	92	88
Beans.....	81	91	Peas.....	—	77
Buckwheat.....	85	92	Beans.....	—	95
Mixed grains.....	101	98	Mixed grains.....	—	96
New Brunswick—			Flax.....	87	89
Spring wheat.....	97	95	Alberta—		
Oats.....	103	103	Fall wheat.....	94	93
Barley.....	96	96	Spring wheat.....	87	91
Peas.....	85	92	All wheat.....	88	92
Beans.....	83	97	Oats.....	79	87
Buckwheat.....	86	101	Barley.....	77	91
Mixed grains.....	100	98	Rye.....	83	90
Quebec—			Peas.....	99	100
Spring wheat.....	103	97	Mixed grains.....	92	98
Oats.....	102	99	Flax.....	78	93
Barley.....	100	99	British Columbia—		
Rye.....	101	100	Fall wheat.....	78	97
Peas.....	96	93	Spring wheat.....	81	94
Beans.....	88	97	All wheat.....	81	95
Buckwheat.....	85	98	Oats.....	76	95
Mixed grains.....	98	99	Barley.....	71	94
Flax.....	95	97	Rye.....	79	94
Corn for husking.....	88	96	Peas.....	83	93
Ontario—			Mixed grains.....	88	97
Fall wheat.....	86	92			
Spring wheat.....	103	87			

II. Comparative Condition of Root and Fodder Crops, July, August and September, 1919.

Field Crops.	July 31, 1919.	Aug. 31, 1919.	Sept. 30, 1919.	Field Crops.	July 31, 1919.	Aug. 31, 1919.	Sept. 30, 1919.
Canada—	p.c.	p.c.	p.c.	Ontario—	p.c.	p.c.	p.c.
Potatoes.....	88	91	95	Potatoes.....	84	76	81
Turnips, mangolds, etc.	88	99	91	Turnips, mangolds, etc.	80	80	83
Sugar beets.....	84	83	85	Sugar beets.....	84	83	85
Corn for fodder.....	93	97	95	Corn for fodder.....	91	93	93
Alfalfa.....	—	—	91	Alfalfa.....	—	—	96
P. E. Island—				Manitoba—			
Potatoes.....	101	100	93	Potatoes.....	95	90	89
Turnips, mangolds, etc.	100	96	95	Turnips, mangolds, etc.	95	91	98
Corn for fodder.....	98	98	93	Corn for fodder.....	100	100	99
Nova Scotia—				Alfalfa.....	—	—	98
Potatoes.....	101	99	94	Saskatchewan—			
Turnips, mangolds, etc.	97	100	97	Potatoes.....	86	87	97
Corn for fodder.....	94	98	93	Turnips, mangolds, etc.	76	81	87
Alfalfa.....	—	—	103	Corn for fodder.....	86	100	92
New Brunswick—				Alfalfa.....	—	—	82
Potatoes.....	99	101	96	Alberta—			
Turnips, mangolds, etc.	97	99	97	Potatoes.....	87	89	96
Corn for fodder.....	97	101	102	Turnips, mangolds, etc.	82	85	95
Alfalfa.....	—	—	80	Corn for fodder.....	56	80	67
Quebec—				Alfalfa.....	—	—	—
Potatoes.....	99	98	103	British Columbia—			
Turnips, mangolds, etc.	98	97	99	Potatoes.....	85	86	90
Corn for fodder.....	105	98	103	Turnips, mangolds, etc.	86	77	91
Alfalfa.....	—	—	99	Corn for fodder.....	86	85	91
				Alfalfa.....	—	—	89

CROP REPORTS FROM THE PROVINCES.

Maritime Provinces.—Throughout the Maritime Provinces the weather has been very unfavourable for harvesting. Continuous rains have caused wheat to rust, although generally it was saved in good condition. Threshing has not yet been completed. Oats and barley are reported to have been a fair crop. Potatoes everywhere were badly affected by blight and rot. Turnips in Prince Edward Island suffered greatly from club root. Other roots were also very poor this year.

Quebec.—The harvest of all crops, although later than usual on account of the heavy rains, is generally good. Threshing is not very far advanced owing partly to shortage of labour. There are great quantities of potatoes, but in many sections a great portion of them are showing signs of rot.

Ontario.—Throughout the whole province of Ontario correspondents report spring wheat, with but few exceptions, to have been below average. The hot, dry weather of early June caused wilting and rust. The grain was very short and many heads did not fill up. Joint worm in some districts affected wheat. Fall wheat has proved more successful, and farmers are more than satisfied with the results. All other grains have been very poor. Alfalfa and hay have proved an abundant crop. Corn for silage is very good. Potatoes, generally, were far below average, many having rotted in the ground owing to

the wet weather of September. Turnips suffered greatly from turnip fly and aphides, and a very poor yield has resulted. Other roots although below average have improved with the frequent rains of the past few weeks. Help on the farm is still unobtainable.

Manitoba.—Where threshing had been done very fair yields of all grains were being realized, though the grade of wheat was somewhat reduced where rust had been prevalent. Excessively wet weather in September interfered somewhat with the threshing, especially in eastern parts of the province, and much grain had commenced to sprout in the stook. The year has proved an extra good one for corn, but only fair for potatoes. In most parts of the province there will be sufficient fodder for winter.

Saskatchewan.—The extremely dry weather during the early summer retarded the growth of all grain, and injury was caused by hail and high winds; red rust also attacked wheat and barley. In the southern districts of the province, where threshing was completed early, the wheat, though light, is of good quality. Heavy rains during September have interfered with the work of harvesting, and warm weather between showers has caused the grain to grow in the stooks, which will lower the grade. Flax was satisfactory. While oats are good in some districts, a large quantity will be cut for green feed. This will be needed, as hay was a light crop, and will be high in price. Straw is plentiful. The late rains were of great benefit to root crops, and potatoes are excellent, both in yield and quality.

Alberta.—All wheat and field crops are poor on account of the dry season, and in some localities hail did heavy damage. Complete failure of all crops is reported by some correspondents. On irrigated land better conditions are reported. A large percentage of the grain crops will be cut for green feed. Oats were badly damaged by cutworms, and seed oats are scarce. While little of the grain will be threshed, the quality is good, and late oats look promising. Threshing was delayed by heavy rains. Potatoes, generally, are the best crop in years, and all root crops are above the average. Pasture was improved by late rains. Early frosts have done slight damage.

British Columbia.—Owing to the extreme and prolonged drought during the growing season, all kinds of crops have suffered this year. A portion of the wheat was dried up, but on the whole the grain crops turned out better than one expected. The late rains improved the condition of potatoes and other root crops, and pasture is very good. Hay is reported scarce in some districts. Apples and cherries are a splendid crop. Frost occurred about September 29.

INFLUENCE OF THE WEATHER UPON THE GROWTH OF SPRING WHEAT.

Table I on page 249 presents the data collected during September from crop correspondents in continuation of the monthly records published in the Bulletin from May to September 1919. The records of September relate to the dates of cutting. In Table II, pages 250–251, are given the records of cutting for September, 1919, compared with those of September, 1918.

I. Dates of Cutting of Spring Wheat, 1919.

Province and District.	First Cutting.					Cutting General.					Completion of Cutting.				
	No. of re-plies.	Sept. 1-7.	Sept. 8-14.	Sept. 15-21.	Sept. 22-30.	No. of re-plies.	Sept. 1-7.	Sept. 8-14.	Sept. 15-21.	Sept. 22-30.	No. of re-plies.	Sept. 1-7.	Sept. 8-14.	Sept. 15-21.	Sept. 22-30.
Prince Edward Island.....	11	5	3	2	1	14	6	4	4	—	17	3	9	4	
Nova Scotia.....	29	16	9	4	—	48	8	13	22	5	47	2	12	33	
New Brunswick.....	8	5	3	—	—	16	3	6	7	—	14	1	5	8	
Quebec—															
North.....	5	2	1	2	—	7	1	3	2	1	13	2	1	5	5
South.....	14	8	2	4	—	24	5	7	11	1	35	3	4	14	14
Eastern Townships.....	8	5	2	1	—	13	4	6	3	—	28	2	5	14	7
Montreal Co.....	4	1	3	—	—	11	4	3	4	—	31	8	7	10	6
Ontario—															
Eastern.....	—	—	—	—	—	4	3	1	—	—	11	5	2	2	2
Central.....	—	—	—	—	—	—	—	—	—	—	2	1	—	1	—
North Western.....	—	—	—	—	—	—	—	—	—	—	3	2	—	1	—
South Western.....	1	1	—	—	—	—	—	—	—	—	2	1	—	—	—
Northern.....	1	1	—	—	—	4	1	3	—	—	8	1	2	5	—
Manitoba—															
Eastern.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
North Central.....	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—
South Central.....	—	—	—	—	—	—	—	—	—	—	3	3	—	—	—
North Western.....	—	—	—	—	—	—	—	—	—	—	13	7	2	1	1
South Western.....	—	—	—	—	—	—	—	—	—	—	5	3	1	1	—
Saskatchewan—															
North.....	1	—	1	—	—	3	2	—	1	—	21	8	5	6	2
South.....	—	—	—	—	—	—	—	—	—	—	10	3	4	3	—
Alberta—															
North.....	3	1	—	2	—	9	5	2	1	1	33	7	6	12	8
South.....	1	—	—	1	—	1	—	—	—	—	9	1	2	2	4
British Columbia.....	—	—	—	—	—	1	1	—	—	—	5	2	—	1	2

II. Dates of Cutting of Spring Wheat, 1918 1919.

A. DATES OF FIRST CUTTING.

Items.	Pr. Ed. Is.		N.S.		N.B.		Que.		Ont.	
	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.
No. of records of first cutting.....	20	11	21	29	12	8	34	31	2	2
Sept. 1-7.....	14	5	7	16	7	5	6	16	2	2
Sept. 8-14.....	2	3	8	9	5	3	12	8	-	-
Sept. 15-21.....	3	2	5	4	-	-	16	7	-	-
Sept. 22-30.....	1	1	1	-	-	-	-	-	-	-

Items.	Man.		Sask.		Alberta.		B.C.		Canada.	
	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.
No. of records of first cutting.....	2	-	8	1	1	4	-	-	100	86
Sept. 1-7.....	2	-	6	-	1	1	-	-	45	45
Sept. 8-14.....	-	-	2	1	-	-	-	-	29	24
Sept. 15-21.....	-	-	-	-	-	3	-	-	24	16
Sept. 22-30.....	-	-	-	-	-	-	-	-	2	1

B. DATES OF CUTTING GENERAL.

Items.	Pr. Ed. Is.		N.S.		N.B.		Que.		Ont.	
	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.
No. of records of cutting general.....	26	14	28	48	15	16	76	55	5	8
Sept. 1-7.....	5	6	5	8	-	3	14	14	2	4
Sept. 8-14.....	10	4	8	13	8	6	21	19	2	4
Sept. 15-21.....	9	4	11	22	7	7	26	20	1	-
Sept. 22-30.....	2	-	4	5	-	-	15	2	-	-

Items.	Man.		Sask.		Alberta.		B.C.		Canada.	
	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.
No. of records of cutting general.....	15	-	29	3	8	10	2	1	204	155
Sept. 1-7.....	14	-	21	2	4	5	1	1	66	43
Sept. 8-14.....	1	-	6	-	3	2	1	-	60	48
Sept. 15-21.....	-	-	2	1	1	2	-	-	57	56
Sept. 22-30.....	-	-	-	-	-	1	-	-	21	8

C. DATES OF COMPLETION OF CUTTING.

Items.	Pr. Ed. Is.		N.S.		N.B.		Que.		Ont.	
	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.
No. of records of cutting completed.....	24	17	25	47	15	14	70	107	14	26
Sept. 1-7.....	-	1	2	-	1	-	11	15	5	10
Sept. 8-14.....	-	3	3	2	4	1	14	17	1	4
Sept. 15-21.....	5	9	7	12	5	5	20	43	6	10
Sept. 22-30.....	19	4	13	33	5	8	25	32	2	2

Items.	Man.		Sask.		Alberta.		B.C.		Canada.	
	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.	1918.	1919.
No. of records of cutting completed.....	51	22	91	31	33	42	4	5	327	311
Sept. 1-7.....	22	13	17	11	8	8	1	2	67	60
Sept. 8-14.....	15	4	30	9	9	8	1	-	77	48
Sept. 15-21.....	6	4	32	9	8	14	2	1	91	107
Sept. 22-30.....	8	1	12	2	8	12	-	2	92	96

In the Maritime Provinces and in Quebec last year several cases of heading, flowering, and of the milk-stage were reported during September, while this year only two cases of the milk-stage were reported in Prince Edward Island: one each during the first and second weeks of September, and one case in New Brunswick during the first week. Most cases of first cutting in these provinces occurred during the first week of September, while only one (in Prince Edward Island) occurred during the last week. Cutting was completed, generally, during the last two weeks (146 records); there were 15 records for the first and 23 for the second week of the month.

In Ontario there were two records of first cutting during the first week of September, four records where cutting was general during the first, and four during the second week. Of the 26 records of completion of cutting, 10 occurred during the first week and only 2 during the last week. The rain has hindered the completion of cutting all through the province.

In the Prairie Provinces and British Columbia 100 records were received of completion of cutting, as against 179 last year. Of these, 34 occurred during the first week, 21 during the second, 28 during the third, and only 17 during the last week of the month. This is on account of the wet weather, which delayed the work throughout the West.

Altogether, a smaller number of replies was received this September, compared with the same month last year. Owing to the season being earlier the inquiries were answered previously and recorded in the September Bulletin.

DOMINION EXPERIMENTAL FARMS AND STATIONS.

Central Farm, Ottawa.—The prospects with respect to roots have improved during September, and, if conditions continue to be favourable in October, there should be a fair yield. Indian corn has picked up considerably and, at cutting time, in the latter part of September, the crop as a rule has turned out better than had been anticipated, yielding probably from two-thirds to three-quarters of the average. Potatoes, especially early varieties, are turning out to be a light crop, and the tubers are smaller than usual.

The temperatures recorded during September run about as usual, but there have been somewhat less rain and bright sunshine than normally. The highest reading of the thermometer is 83·8, the lowest 35, and the mean temperature for the month 58·51; while for the corresponding period in 1918 the maximum was 80·4, the minimum 29·8, and the mean 53·96, and, taking the five years from 1914 to 1918, the average figures are 85 for the highest temperature, 33·2 for the lowest, and 57·71 for the mean temperature. The precipitation totals 2·51 inches, most of which fell from the 6th to the 9th; while last year the September rainfall was 5·62 inches, and the average for the five previous years was 2·99 inches. The sunshine averages 5·92 hours a day, as against 4·96 hours for this time a year ago, and an average of 6·37 hours for the five-year period from 1914 to 1918.

Charlottetown, P.E.I.—J. A. Clark, Superintendent, reports:—"September has been showery, and the harvesting of cereals has been difficult. The grain, however, went in in good shape, as few soaking rains occurred; about one-eighth of the grain in the province is out at the close of the month. The grain is turning out splendidly from the threshing machine, and the prospect of an abundant crop throughout the season has been realized. A frost on the night of the 15th killed potato tops in the central and western sections of the province, but did very little damage at the Station, where the tomatoes and cucumbers escaped injury. The apple crop is turning out well. Pastures are excellent. A large amount of ploughing and of other autumn work has been done. Live stock should go into winter quarters in excellent shape."

Kentville, N.S.—W. S. Blair, Superintendent, reports:—"The first half of September was wet, with rain on nine days. The heaviest rainfall was 1·23 inch on the 4th. This rain, coming during the midst of the grain harvest, materially hindered harvesting and did considerable damage to cut grains. Fortunately, there has been little rain during the latter half of the month, giving farmers an opportunity to get up their late grain in good condition. The precipitation aggregates 3·13 inches, compared with an average of 3·36 inches for this period in the five previous years. There has been little cold weather, the coldest day being the 16th, when the thermometer went to 31. The mean temperature is 58·56, while the average for the five previous years was 57·25. The sunshine amounts

to 158.5 hours, which is much less than usual, the average for the five previous seasons being 184.5 hours. Cereal crops on the whole have been above the average. Much grain was discoloured from wet weather during the early part of the month. Late seeded grain ripened well and has been secured in good condition. Corn is an excellent crop, being better matured than usual. Potatoes are yielding well, but indications are that there will be much rot, due, no doubt, to the continued wet during early September."

Nappan, N.S.—W. W. Baird, Superintendent, reports:—"The weather during the first part of September was very unsettled. From the 18th to the 30th, conditions have been much better, thus facilitating the harvesting of the early grain. The thermometer dropped below 36 on four different dates, and the first frost of any consequence was recorded on the night of the 16th. Grain has ripened very slowly, and, at the time of writing, there still remains a large acreage to be cut. The storing of hay was finished about the 16th; but there remains to be cut considerable marsh hay,—the latter being mostly mixed hay and broad leaf. Plot grains have been harvested and threshed, the yields from the same being very satisfactory. Fruit, especially apples, is a good crop, but the market demand for the same is very slack. The prices of farm produce, generally, remain steady. The work engaged in at this Farm, other than caring for poultry, live stock and bees, has included picking apples, ploughing, hauling manure, cutting grain and hay, threshing, and building a new farm cottage as well as poultry houses for the egg-laying contest, which opens on November 1st."

Fredericton, N.B.—W. W. Hubbard, Superintendent, reports:—"The weather for September has been about average as regards temperature, and, while the precipitation is three inches less than in 1918, it is an inch and one-half above the 43-year average. Nearly one-half of the rain fell on the 13th, at the end of nearly two weeks of cloudy, moist weather. This prevented the housing and threshing of grain and started 'Late Blight' very generally in unsprayed potato fields. Those fields that had been thoroughly sprayed have escaped largely both blight and the consequent rot. On the Station farm, only the check plots left unsprayed are showing rot thus far, and the crop so far dug is giving a yield of about three hundred bushels per acre. Root crops are doing exceptionally well, although early sown turnips developed some mildew during the first part of the month, which the later sown escaped. The apple crop generally is good, but the Fameuse and McIntosh Red varieties are considerably damaged by scab. Corn has been cut this year without frost, giving 17 tons per acre as hauled to the silo. Speaking for this district, grain generally has done better than usual, while roots are promising. Potatoes are probably an average crop, but from 25 to 75 p. c. of the tubers are rotting where spraying was not well done. Live stock is in good condition."

Ste. Anne de la Pocatière, Que.—Jos. Begin, Superintendent, reports:—"The temperatures during September have ranged higher

than for this time during the past three years, the highest being 78, the lowest 32 and the mean 51.5, while the mean temperature for the same period in 1918 was 47.6. The precipitation totals 3.86 inches, rain falling on fifteen different days; while the rainfall for this time last year amounted to 6.60 inches distributed over twenty days. The bright sunshine totals 146.6 hours. During the last two weeks, the Indian corn has been cut and put in the silo, the yield being upwards of fourteen tons per acre, which is the heaviest crop yet recorded at this Station. Roots have done well, and promise to yield more than an average crop. Considerable ploughing and discing have been done on areas to be devoted to hoed crops next year. The potatoes dug at the Station have turned out well, with very little rot; while the yield throughout this section should be above the average. No killing frost has been recorded during the month, though the most tender plants have been touched. The grain crop on the whole is a good one this year; but owing to frequent rains about 40 p. c. of the cereal crop of the district remains to be threshed at the close of September."

Cap Rouge, Que.—G. A. Langelier, Superintendent, reports:—"September has been warmer, drier and duller than the average of the corresponding period during the last seven years, the figures being, respectively, 55.31 and 54.71 for mean temperature, 4.21 and 4.68 inches for precipitation, and 129.1 and 151.8 hours for sunshine. As it rained on twenty different days between the 6th and 30th, it was practically impossible to bring in grain, and a good deal of it got discoloured, whilst some has been spoiled. At the Station, all grain was threshed before October 3rd, and a silo holding 120 tons has been filled with corn. Potatoes have been rotting in the ground during the latter part of the month, and farmers have been digging them as fast as the weather permits."

Lennoxville, Que.—J. A. McClary, Superintendent, reports:—"The weather during September has been cool, with less rain than experienced here for this period during the past two years. The highest temperature recorded is 83, the lowest 26, and the mean 54.81, compared with a maximum of 78, a minimum of 23, and a mean temperature of 62.27 a year ago. The precipitation totals 4.31 inches, most of it being recorded from the 6th to the 12th; while a year ago the rainfall amounted to 8.55 inches. The bright sunshine averages 4.60 hours a day, compared with 3.44 hours a day for this time last year. The corn crop in this district has been harvested in excellent condition, there being no frost to damage it until the night of the 26th, when the thermometer dropped to 26. The second crop of clover is unusually good and many farmers are saving some clover seed. A large percentage of potatoes have been dug, and the tubers show signs of considerable rot in certain districts."

Brandon, Man.—W. C. McKillican, Superintendent, reports:—"The weather during September has been about normal as regards temperature, the mean for the month being 52.7. The first frost

was registered on the night of the 25th, this being the latest first fall frost since 1906. The rainfall totals 1.62 inch. The earlier part of September was fairly dry, and a good start was made at threshing, but showery weather during the latter part of the month has delayed this work very seriously, and there still remains to be done quite a large proportion of the threshing in this part of Manitoba. At the Experimental Farm, threshing was completed on September 3rd, before the wet weather started. Corn cutting and silo filling were also completed in good time. A large crop of mangolds has been harvested, and a good start has been made with fall ploughing."

Indian Head, Sask.—N. D. Mackenzie, Acting Superintendent, reports:—"September has been moderately warm, with showery weather from the 8th to the 21st. These rains considerably retarded threshing operations, and a good deal of this work still remains to be done throughout the district. The first frost of the season was recorded on the night of the 24th, while the first snow fell on the 29th. Deliveries of grain to the elevators have been light, as farmers have been taking advantage of the fine days to get their fall ploughing and other work on the land completed. The work engaging attention at the Experimental Farm has included threshing cultural and variety plots of grain, cutting fodder corn, hauling and spreading manure, hauling straw to the buildings, taking up vegetables, and caring for the live stock and poultry."

Rosthern, Sask.—Wm. A. Munro, Superintendent, reports:—"The first frost in this district was recorded on the morning of September 27th. The intermittent rains in August and September brought on vegetables, root crops and potatoes till the yield is above the average. Wheat in this district will scarcely average seven bushels to the acre, and, before being cut, this suffered considerable damage from rust, and, after cutting, by growth in the stook. The unusual precipitation for August and September, with absence of frost, has been conducive to rank growth in the stubble fields and pastures, thus affording abundant pasture for stock this fall and easing the difficulty that must be experienced in wintering stock because of lack of hay. The same conditions of moisture are very favourable too for fall ploughing, and during the present season more of this work is being done in the district than ever before."

Scott, Sask.—M. J. Tinline, Superintendent, reports:—"The precipitation recorded during September totals 1.56 inch, which is about the average for this month during the past nine years. A light frost on the 2nd did some damage to tender vegetation. The first killing frost was on the 26th, which is the latest date on record here. Threshing at the end of the month is almost completed in the district. Good crops of potatoes and field roots are being harvested. A second growth in the oat stubble is providing an unexpected supply of pasture, and the feed situation generally is much improved."

Lacombe, Alberta.—B. C. Milne, Assistant to the Superintendent, reports:—"On the whole, the weather during September has been

favourable for harvesting operations. The heaviest rains of the summer fell on the 6th, totalling 2.14 inches. This had a favourable effect in promoting after-growth in the fields and did not hinder cutting and shocking to any great extent. The remainder of the month has been cool and dry, while no frosts of any consequence occurred until the 27th. Threshing operations are now progressing rapidly, and grain yields are much better than expected,—wheat at this Station giving 35 bushels, oats 76 bushels, and barley 44 bushels per acre. Live stock in this district continues to do well, a late rain having aided the growth of pastures to quite a considerable extent. Prices, however, have fallen and are not nearly so satisfactory for the farmer, this being the case especially as regards cattle and hogs."

Lethbridge, Alberta.—W. H. Fairfield, Superintendent, reports: "At the end of September, harvesting in southern Alberta has been completed, and about 50 p. c. of the threshing has been done. The alfalfa crop this year is above the average and is of very good quality. Recent rains have greatly improved fall pastures and produced considerable green feed on all stubble areas. The first killing frost, recorded on the 28th, was not sufficient to do any damage to green feed."

Invermere, B.C.—R. G. Newton, Acting Superintendent, reports: "Weather conditions for September, on the whole, have been very favourable for harvesting and other fall work. Light showers have fallen several times during the month, giving a total precipitation of 0.69 of an inch, which is the lowest on record for September. On irrigated lands at the Experimental Station, all cereal crops have made a very fair showing, while roots and potatoes promise heavy yields. Fourteen degrees of frost were recorded on the 28th, resulting in considerable damage to field and garden crops."

Summerland, B.C.—R. H. Helmer, Superintendent, reports:—"The long drought of the season has been broken during September, showers being experienced on the 4th, 6th, and 9th and a good rain during the night of the 12th. This has saved the crops in many sections where the water shortage was acute. The largest apple crop in the history of British Columbia is being harvested, while the quality of the product has never been excelled throughout the entire district. Hay crops on the whole are short. Potatoes will not yield so well as last year. Corn for ensilage has not grown quite so well this year as usual, the cold, dry spring causing very slow growth to be made early in the season. Taking the crops as a whole, they are better than expected earlier in the season."

Agassiz, B.C.—W. H. Hicks, Superintendent, reports:—"September on the whole has been a very dry month, most of the total precipitation of 6.7 inches (which is somewhat greater than the average of the past twelve years) occurring on two occasions, 3.9 inches on the 11th and 12th and 2.5 inches on the 27th and 28th. These two heavy rainfalls have done pastures a great deal of good, and cattle and other live stock have benefited accordingly, and are in good condition. The corn crop is almost harvested, and is satisfac-

tory, considering the dry season. The root crop is light, particularly potatoes, which are being dug now. Great damage has been done by forest fires during the latter part of the month, many farmers in the Fraser Valley being burned out. The heavy rain experienced about the end of the month is just what was needed to stop the fires from spreading."

Sidney, Vancouver Island, B.C.—Lionel Stevenson, Superintendent, reports:—"The continued dry weather during September has made conditions favourable for threshing and for the baling of straw. Very little ploughing has been done in the district, due to the soil being very dry and hard. The harvesting of orchard fruits proceeded during the month. Potatoes, roots and corn have suffered from the drought and their yields will be light. Pasture areas produced but little feed during the month. The live stock of the district is in good condition. Hay and straw are abundant, but high in price. Numerous sales of dairy cattle have been held during September, and high prices were realized."

Meteorological Record for September 1919.

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of September are given in the following table:—

Experimental Farm or Station at—	Degrees of Temperature F.			Precipitation in inches.	Hours of Sunshine.	
	High-est.	Low-est.	Mean.		Possible.	Actual.
Ottawa, Ont.....	83.8	35.0	58.51	2.51	376	177.7
Charlottetown, P.E.I.....	74.0	36.0	56.95	4.78	376	151.2
Kentville, N.S.....	82.0	31.0	58.56	3.13	376	158.5
Nappan, N.S.....	87.0	33.0	56.80	3.97	376	134.9
Fredericton, N.B.....	76.0	30.0	56.00	5.11	376	139.9
Ste. Anne de la Pocatière, Que.....	78.0	32.0	51.50	3.86	377	146.6
Cap Rouge, Que.....	80.0	32.2	55.31	4.21	376	129.1
Lennoxville, Que.....	83.0	26.0	54.81	4.31	376	138.2
Brandon, Man.....	85.5	24.4	52.70	1.62	378	113.2
Indian Head, Sask.....	89.0	22.0	53.00	1.03	375	138.6
Rosthern, Sask.....	77.2	23.1	51.58	2.79	378	164.8
Scott, Sask.....	79.0	19.9	52.20	1.56	378	162.6
Lacombe, Alberta.....	79.3	17.5	50.40	2.33	375	188.0
Lethbridge, Alberta.....	86.0	26.0	53.33	2.04	378	228.6
Invermere, B.C.....	78.0	18.0	50.68	0.69	379	203.6
Summerland, B.C.....	77.0	34.0	57.41	1.00	378	221.5
Agassiz, B.C.....	86.0	32.0	60.98	6.70	378	148.2
Sidney, Vancouver Is., B.C.....	76.0	39.0	57.30	1.85	377	213.0

E. S. ARCHIBALD.

Ottawa, October 15th, 1919.

Director Experimental Farms.

CROP REPORTS FROM OTHER COUNTRIES.

England and Wales.—The Board of Agriculture reports (October 1) that the grain harvest is now practically finished, except in Wales and other hilly districts. Weather conditions were generally favourable, and the crops were secured in good condition; rain, while in some cases causing delay, has done no material harm. In the more

important potato-growing districts the main crop is now being lifted. There is little disease anywhere, although some is reported from the southwestern counties, and on the whole the potatoes appear to be unusually healthy. Prospects have improved a little during the month, but the yield on the whole is expected to prove some 7 or 8 p.c. below the average. Roots have improved during the month, but have by no means recovered from their bad start, and are backward; so that only light crops can be looked for. Turnips and swedes are expected to yield only 83 p.c. and mangolds 79 p.c. of the normal. Autumn cultivation is proceeding under favourable weather conditions; work appears to be well advanced on the western side of the country but is rather late in the eastern counties. With some exceptions in various parts of the country, the stubbles are described as foul with weeds. The young seeds are somewhat variable, but nearly everywhere they are thin and unpromising. A good deal of patching with trifolium has been done. The pastures generally are green for the time of year, but there are several reports to the effect that there is not much grass on them. Live stock have done fairly well, but their general condition can hardly be said to be as good as it should be at this time of year. Ordinary unskilled labour is mostly reported to be sufficient in quantity, though frequently described as somewhat inefficient; skilled hands of all kinds are still scarce.

India.—The Indian Department of Statistics issued (August 16) the final general memorandum on the wheat crop of 1918-19. This places the total area under wheat as 23,764,000 acres, as against 35,487,000 acres last year, or a decrease of 33 p.c. The total yield of the crop harvested is estimated at 280,075,000 bushels, as against 370,421,000 bushels last year, a decrease of 24 p.c.

Rumania.—The English Board of Trade Journal for October 16 reports the following statistics showing the area under grain in the old kingdom of Rumania for the year 1918-19, compared with the average for the five years 1910-14, as furnished by the British Consul General at Bucharest. Statistics for the newly-acquired territories are not yet available.

Crop.	1918-19.	Average, 1910-14.	Crop.	1918-19.	Average, 1910-14.
	000 acres.	000 acres.		000 acres.	000 acres.
Wheat.....	2,965	4,785	Linseed.....	31	50
Maize.....	4,861	5,122	Rape seed.....	195	187
Barley.....	587	1,328	Hemp.....	14	14
Oats.....	598	1,077	Beans.....	69	106
Rye.....	219	290	Peas.....	16	43
Millet.....	171	101			

It is estimated that the total wheat crop in 1919 will amount to some 52,267,000 bushels, of which 18,667,000 bushels will be available for export. The barley and oat crops will be mostly required for consumption in the country, and it is improbable that any surplus will be available for export. The area under maize cultivation is

about 96 p.c. of the normal average, and the crop is at present in excellent condition. The quantity available for export next spring should therefore not fall far short of the normal average. The total crop of rape seed is estimated to be about 35,000 tons, of which 20,000 tons will be available for export.

Manchuria.—According to a report in the English Board of Trade Journal of October 2 from the Acting British Consul at Dairen, the production of soya beans in 1918 was 2,100,000 short tons, as compared with 1,980,600 tons in 1917. The figures are not official, but are compiled by a local bean mill; they are considered to be approximately correct.

United States.—The Crop Reporting Board of the U. S. Department of Agriculture issued (October 8) estimates of the acreage, condition and yield of the principal field crops of the United States for 1919, with comparative figures for 1918 as follows:

Crops.	Area.		Condition.		Yield per acre.		Total Yield.	
	1919.	Per cent of 1918.	Oct. 1, 1919.	Ten-year average.	1918.	1919 preliminary.	1918 final estimate.	1919 preliminary.
	Acres.	Acres.	p. c.	p. c.	Bush. per acre.	Bush. per acre.	Bushels.	Bushels.
Corn.....	102,977	95.8	81.3	74.1	24.0	28.2	2,582,814	2,900,511
Winter wheat.....	48,933	133.3	—	—	15.2	14.6	558,449	715,301
Spring wheat.....	22,593	100.8	—	—	16.0	9.0	358,651	203,170
All wheat.....	71,526	121.0	—	—	15.5	12.8	917,100	918,471
Oats.....	42,169	95.0	—	—	34.6	28.9	1,538,359	1,219,521
Barley.....	8,899	91.9	—	—	26.5	22.3	256,375	198,298
Rye.....	6,576	104.8	—	—	14.4	12.9	90,183	84,552
Buckwheat.....	840	90.9	88.1	78.0	16.5	21.4	17,182	17,990
White potatoes.....	4,003	95.1	87.9	73.4	95.0	87.5	400,106	350,070
Sweet potatoes.....	1,023	111.0	83.9	80.4	93.6	97.2	86,334	99,413
Flax.....	1,851	95.5	52.6	73.0	7.6	5.8	14,657	10,652
Rice.....	1,091	98.1	91.3	85.0	36.3	40.6	40,424	44,261
					lb.	lb.	lb.	lb.
Tobacco.....	1,774	114.5	73.6	82.5	865.1	720.3	1,340,019	1,278,062
							bales.	bales.
Cotton.....	32,390 ¹	90.0	54.4	63.5	159.6	158.0	12,041	10,696
					tons.	tons.	tons.	tons.
Hay.....	54,872	98.0	—	—	1.36	1.58	76,069	86,723
Sugar beets.....	792	133.3	79.1	89.1	9.92	9.22	5,890	7,303

¹Planted acreage.

The total yield* of corn is 2,900,511,000 bushels, as compared with 2,582,814,000 bushels last year, of wheat 918,471,000 bushels, as against 917,100,000 bushels, and of oats 1,219,521,000 bushels as against 1,538,359,000 bushels. Potatoes are estimated to yield 350,070,000 bushels, as against 400,106,000 bushels last year.

The price in cents per bushel of the principal cereals on October 1, as compared with the same date in 1918, is as follows, the price of last year being placed within brackets: Wheat 209.6 (205.8), corn 153.9 (159.5), oats 68.4 (71), barley 115.3 (95.5), rye 135.8 (154), buckwheat 162 (180), potatoes 164.2 (143.6), flax 438.2 (380.9), hay \$19.79 (\$18.45).

ENGLISH CROP AND LIVE STOCK RETURNS, 1919.

The English Board of Agriculture issued on September 20, 1919, a preliminary statement of the areas under field crops and of the numbers of live stock in 1919, as compared with 1918. Table I gives the areas under field crops and Table II the numbers of live stock.

I. Areas of Field Crops in England and Wales, 1918 and 1919.

Field Crops.	1918.	1919.	Difference between 1918 and 1919. Increase (+). Decrease (-).	
	acres	acres	acres	p.c.
Autumn sown wheat.....	2,293,440	2,074,390	-219,050	-9.6
Spring sown wheat.....	263,220	146,770	-116,450	-44.2
All wheat.....	2,556,660	2,221,160	-335,500	-13.1
Barley.....	1,500,810	1,510,340	+ 9,530	+ 0.6
Oats.....	2,780,060	2,562,970	-217,090	-7.8
Rye.....	101,430	106,540	+ 5,110	+ 5.0
Beans.....	250,680	284,800	+ 34,120	+13.6
Peas.....	150,100	163,440	+ 13,340	+ 8.9
Buckwheat.....	7,260	6,320	- 940	-12.9
Potatoes.....	633,830	476,050	-157,780	-24.9
Turnips and swedes.....	910,820	983,030	+ 72,210	+ 7.9
Mangolds.....	401,290	395,680	- 5,610	- 1.4
Clover and grass.....	2,095,230	2,258,010	+162,780	+ 7.8
Permanent grasses.....	14,588,870	14,441,430	-147,440	- 1.0
Hops.....	15,670	16,780	+ 1,110	+ 7.1
Orchards.....	263,060	232,380	-30,680	-11.7
Small fruit.....	65,680	53,720	- 6,960	-10.6
Other field crops and bare fallow.....	929,120	1,264,700	+335,580	+36.1

The total acreage under crops and grass in 1919 in England and Wales amounts to 26,750,000 acres, of which 12,310,000 are arable land and 14,440,000 permanent grass, these items showing decreases, as compared with 1918, of about 90,000 and 147,000 acres respectively.

The acreage under wheat, 2,221,000 acres, shows a decrease of 335,000 acres, or 13 p.c. during the year, but, except for 1918, is the largest since 1891. Barley shows a very small increase, but oats have fallen from $2\frac{3}{4}$ to rather more than $2\frac{1}{2}$ million acres, but occupy the second largest area on record. Rye with a very small increase is again the largest area on record. Beans and peas show increases of $13\frac{1}{2}$ and 9 p.c. respectively.

Potatoes show a very largely reduced acreage, the total, 476,000 acres, being only three-fourths that of last year, and but little greater than the pre-war average. Turnips and swedes show a material recovery, and are only just short of a million acres, while the mangold acreage is slightly reduced. Among other crops the most noteworthy changes are the increases in the area under mustard (which has recovered the area in 1916), cabbage, rape, vetches and celery; while the most important relative decreases have taken place in kohlrabi (the smallest acreage on record), onions, chicory and sugar-beet.

The area under clover, sainfoin, and grasses under rotation, as might be expected as a consequence of last year's large addition to the arable land, shows a material increase, viz., over 160,000 acres, one-third of this being in the area reserved for hay. The total area reserved for hay, viz., 1,500,000 acres of clover, etc., and 4,170,000 acres of permanent grass, amounted altogether to 5,670,000 acres, or some 73,000 acres less than last year; the total area to be grazed shows an increase of 88,000 acres. The dry spring is no doubt accountable for the smaller area of the hay crop; and to the same cause (at least in part) may probably be attributed the large increase in the bare fallow, 650,000 acres as compared with little more than 400,000 last year, and about double the normal acreage.

II. Numbers of Farm Live Stock in England and Wales, 1918 and 1919.

Description.	1918.	1919.	Difference between 1918 and 1919.	
			Increase (+).	Decrease (-).
	No.	No.	No.	p.c.
Horses—				
For agricultural purposes, including mares for breeding.....	822,430	814,180	- 8,250	- 1.0
Unbroken, including stallions—				
One year and above.....	227,560	230,840	+ 3,280	+ 1.4
Under one year.....	100,070	103,980	+ 3,910	+ 3.9
Others.....	225,770	237,810	+ 12,040	+ 5.3
Total horses.....	1,375,830	1,386,810	+ 10,980	+ 0.8
Cattle—				
Cows and heifers in-milk.....	1,858,200	1,943,660	+ 85,460	+ 4.6
Cows in-calf, but not in-milk.....	335,090	292,360	- 42,730	-12.8
Heifers in-calf.....	384,680	317,480	- 67,200	-17.5
Other cattle—				
Two years and above.....	1,000,770	1,167,170	+166,400	+16.6
One year and under two.....	1,338,510	1,271,420	- 67,090	- 5.0
Under one year.....	1,283,240	1,202,500	- 80,740	- 6.3
Total cattle.....	6,200,490	6,194,590	- 5,900	- 0.1
Sheep—				
Ewes kept for breeding.....	6,486,780	5,763,940	-722,840	-11.1
Other sheep—				
One year and above.....	3,160,720	3,567,630	+406,910	+12.9
Under one year.....	6,827,680	5,791,650	-1,036,030	-15.2
Total sheep.....	16,475,180	15,123,220	-1,351,960	- 8.2
Swine—				
Sows kept for breeding.....	289,540	251,850	- 37,690	-13.0
Other pigs.....	1,407,530	1,547,710	+140,180	+10.0
Total swine.....	1,697,070	1,799,560	+102,490	+ 6.0

Horses used for agriculture, including breeding mares, show a small decline; but a small increase in unbroken horses nearly counterbalance this; and other horses (saddle, vanners, etc.) on the farm also show a rise; so that the total of all horses on the farm is some 10,000 more than last year. Cows in-milk are more numerous than in 1918 by 85,000, or $4\frac{1}{2}$ p.c.: the total, 1,944,000, is the largest on record. Cows and heifers in-calf show, however, a material decline; but the total of cows and heifers, in-milk or in-calf, amounts to 2,554,000, or only 25,000 less than last year's record. Other cattle show a

slight increase, but only in the class over 2 years, the younger animals decreasing by about 5 p.c. The total of all cattle 6,195,000, is just 6,000 below last year's figure. Sheep show a decline of 1,350,000, or 8 p.c., the total number being 15,123,000, which is the lowest on record. Breeding ewes declined by over 700,000 (11 p.c.) and lambs by over a million, but other older sheep increased by 400,000. Sows kept for breeding numbered just over a quarter of a million, a decline of 13 p.c., and just below the figure of 1917, hitherto the lowest. Other pigs, however, increased by 140,000 (10 p.c.), and the total of all pigs was just 1,800,000, or 6 p.c. more than last year.

STATISTICS OF FARM LIVE STOCK IN BRITISH INDIA.

The following table taken from the Monthly Bulletin of the International Institute of Agriculture (July-September Nos. 7-9), gives the numbers of farm live stock in British India for the year 1917-18, as compared with 1916-17.

Classification.	Number of head in		Increase (+) or decrease (-) in 1917-18 as compared with 1916-17.	
	1917-18.	1916-17.	Absolute Numbers.	Percentage.
Bulls and bullocks.....	49,331,497	49,416,156	- 84,359	-0.2
Cows.....	37,471,164	37,616,899	-145,735	-0.4
Buffaloes—				
Bulls.....	5,582,655	5,581,163	+ 1,492	0.0
Cows.....	13,652,678	13,698,584	- 45,906	-0.3
Young stock (calves and buffalo calves)....	43,069,628	43,112,218	- 42,590	-0.1
Sheep.....	22,894,571	22,923,458	- 28,887	-0.1
Goats.....	33,165,506	33,366,392	-200,186	-0.6
Horses and ponies.....	1,680,946	1,680,990	-44	0.0
Mules.....	70,940	70,910	+30	0.0
Donkeys.....	1,534,344	1,537,083	-2,742	-0.2
Camels.....	499,903	500,011	-108	0.0

Only for Burma, the Central Provinces, Berar, Ajmer-Merwara and Manpur Pargana are the figures for the year as stated. For the other provinces the figures are from older enumerations.

A Rare Weed.—Our crop correspondent, Mr. Josiah Bennett of Pine Creek Station, Manitoba, sent with his report the specimen of an unknown weed. The Dominion Botanist, to whom the weed was referred, identified it as the Buffalo Bur or Sand Bur (*Solanum rostratum*), reporting as follows: "This is an annual weed and appears to be very rare in its occurrence in Canada, but has been found at Clearwater in Manitoba. The seeds of this plant frequently occur in baled hay and they are also liable to become attached to the wool of sheep. In former times they were frequently carried over the prairie attached to the hair of buffaloes in a similar manner. Being annual, the weed will die out if the formation of seeds is prevented."

INTERNATIONAL INSTITUTE OF AGRICULTURE.

The following table showing the production of wheat, rye, barley and oats in countries of the northern hemisphere for 1919 is taken from the Monthly Bulletin of Agricultural and Commercial Statistics of July-September, 1919 (Nos. 7-9), as issued by the International Institute of Agriculture. For the United States, later estimates are given on page 259 of the present issue.

Production of Wheat, Rye, Barley and Oats in Countries of the Northern Hemisphere, 1918 and 1919, and Averages for 1913-17.

Countries.	1918.	1919.	Per cent of 1918.	Five-year average 1913-17.	Per cent of five- year average.
	000 bush.	000 bush.	p.c.	000 bush.	p.c.
Wheat—					
Spain.....	135,710	138,398	102.0	132,559	104.4
Scotland.....	3,216	2,880	89.6	2,496	115.4
Italy.....	183,296	154,323	84.2	173,809	88.8
Canada.....	189,075	193,689	102.4	250,613	75.5
United States (a).....	558,458	715,012	128.0	555,199	128.8
“ (b).....	358,657	208,003	58.0	235,448	88.3
British India.....	370,421	280,075	75.6	358,101	78.2
Japan.....	31,016	29,818	96.1	26,640	111.9
Tunis.....	8,451	7,349	87.0	6,291	116.8
Total.....	1,838,300	1,729,547	94.1	1,747,156	99.0
Rye—					
Italy.....	5,232	3,937	75.2	5,003	78.7
Canada.....	8,504	8,234	96.9	2,707	30.4
United States.....	90,182	84,599	93.8	50,001	169.2
Total.....	103,918	96,770	93.1	57,711	167.7
Barley—					
Scotland.....	5,642	6,083	107.8	6,373	95.5
Italy.....	9,687	7,808	80.6	9,260	84.3
Canada.....	77,287	66,444	85.9	47,273	140.5
United States.....	256,370	194,996	76.1	199,208	92.9
Japan.....	79,825	91,483	114.6	86,758	105.4
Tunis.....	9,186	5,971	65.0	7,183	83.1
Total.....	437,997	372,785	85.1	356,055	104.7
Oats—					
Scotland.....	59,253	44,414	75.0	44,011	100.9
Italy.....	42,685	29,179	68.4	30,439	95.9
Canada.....	426,313	399,368	93.7	399,184	100.0
United States.....	1,447,871	1,152,944	79.6	1,252,979	92.0
Japan.....	6,426	9,337	145.3	5,709	163.5
Tunis.....	3,631	3,242	89.3	2,922	111.0
Total.....	1,986,179	1,638,484	82.5	1,735,244	94.4

(a) Winter wheat.

(b) Spring wheat.

The table shows that the yield of wheat in 1919 for the eight countries named is 1,729,547,000 bushels, as compared with 1,838,300,000 bushels in 1918 and with 1,747,156,000 bushels, the annual average for the five years 1913-17. The yield of 1919 is therefore 5.9 p.c. less than that of 1918 for the same countries and 1 p.c. less than the average of the five years. Rye gives the total of 96,770,000 bushels for the three countries of Italy, Canada and the United States,

as compared with 103,918,000 bushels in 1918 and with 57,711,000 bushels, the average for the five years, the percentage proportions being 93.1, as compared with 1918 and 167.7 p.c., as compared with the annual average. Barley, for six countries, yields 372,785,000 bushels in 1919 as against 437,997,000 bushels in 1918 and 356,055,000 bushels the five-year average, the yield of 1919 being 14.9 p.c. below that of 1918 but 4.7 p.c. above the average. The total production of oats in six countries is 1,638,484,000 bushels as compared with 1,986,179,000 bushels in 1918 and with 1,735,244,000 bushels, the five-year average. The yield of 1919 is 17.5 p.c. below that of 1918, and 5.6 p.c. below that of the five-year average.

The Rome Bulletin contains also statements respecting corn, the total yield of which is given as 2,947,159,441 bushels for four countries (Italy, Canada, the United States and Algeria), as compared with 2,673,597,304 bushels for the same countries in 1918 and with 2,861,394,983 bushels, the annual average for the five years 1913-17. The yield of 1919 is 10.2 p.c. in excess of that of 1918 and 3 p.c. above that of the average. Nearly the whole of the corn crop is grown in the United States, where the yield for 1919 is given as 2,857,976,131 bushels.¹ The total crop of flaxseed in the six countries of Italy, Canada, the United States, British India, Japan and Tunis is placed provisionally at 27,477,126 bushels, which is 35.4 p.c. less than the yield of 1918 and 36.5 p.c. less than the five-year average. The leading flaxseed producing countries for 1919 are Canada (7,349,937 bushels), the United States (10,199,915 bushels) and British India (9,159,988 bushels).

MILLING AND BAKING TESTS OF CANADIAN WHEAT, 1919.

In the following statements are found the results of milling and baking tests of average samples of grades of Canadian wheat of the harvest of 1919, as given out by Dr. F. J. Birchard, Chemist in charge of the Dominion Grain Research Laboratory of the Department of Trade and Commerce at Winnipeg. The samples tested were supplied by the Chief Grain Inspector.

I. Milling Results by Grades of Wheat, 1919.

Grade.	Weight per Bushel.	Flour Yield.	Offal.	Scouring and Milling Loss.
	lb.	p.c.	p.c.	p.c.
No. 1 Northern.....	62½	70.7	25.6	3.7
No. 2 Northern.....	60	69.4	27.6	3.0
No. 3 Northern.....	58½	68.5	28.7	3.5
No. 4 special.....	55	66.6	31.3	2.1
No. 5 special.....	54	64.3	32.2	3.5
No. 6 special.....	51½	63.5	32.1	4.4

¹ NOTE.—See later estimate on page 259 of this issue.

II. Baking Results by Grades of Wheat, 1919.

Grade.	Ab-sorp-tion.	Ex-pansion.	Vol-ume of Loaf.	Colour.	Tex-ture.	General Appearance.	Shape.	Ash in Flour.
	p.c.	c.c.	c.c.					p.c.
No. 1 Northern.....	62	340	1,435	100	100	100	0.51	0.58
No. 2 Northern.....	61	340	1,450	98	98	101	0.51	0.57
No. 3 Northern.....	59	345	1,545	101	100	102	0.53	0.57
No. 4 Special.....	58	325	1,515	91	94	101	0.48	0.57
No. 5 Special.....	59	325	1,515	89	93	100	0.48	0.60
No. 6 Special.....	59	320	1,520	89	91	100	0.46	0.60

The milling results were obtained on a small experimental mill and, while comparable among themselves, cannot be regarded as identical with those which would be obtained commercially. They should however bear a direct relation to the commercial results, which would naturally be somewhat higher, due to more efficient equipment.

All yields are calculated on a basis of 13.5 p.c. moisture, both for the wheat and the flour.

The baking tests show that the differences in the baking value this year, between the higher and the lower grades, are very slight. The chief difference noted was that of colour, which, while uniformly good for all the grades, was slightly yellow in grade No. 4, and distinctly yellow in grades Nos. 5 and 6. This yellow colour must, however, be distinguished from the dull, grayish colour commonly associated with the lower grades and due to the presence of frosted and immature kernels. Slight differences in texture were also noted between the loaves from the contract and commercial grades, but these were comparatively unimportant, and to a certain extent were offset by the larger volume.

The tests show that bread of excellent quality can be made from all the grades when milled separately; but no doubt the best results would be obtained by milling a suitable blend of the different grades.

Attention should be drawn to the fact that this year the samples of the three lower grades were all placed in "special" grades, on account of rust and the consequent low weight per bushel.

NOTE ON EXPLANATION OF TERMS USED.

Milling Terms.

OFFAL. Under this term are included bran, shorts or middlings and the feed flour which latter, in each case, amounted to about 2 p.c.

SCOURING AND MILLING LOSS. It will be understood that in working with such small quantities (about 4 lb. of wheat) as are necessary in experimental milling, it is very difficult to control the milling loss; but it is believed that the figures above recorded represent the losses with a fair degree of accuracy.

Baking Terms.

ABSORPTION. This term represents the amount of water required by 100 grams of flour to make a dough of standard consistency.

EXPANSION. The figures in this column represent the maximum height to which a known weight of each dough will rise.

VOLUME. The figures under this column represent the volume of the loaves in cubic centimeters.

Colour, Texture and General Appearance.

The differences in these characteristics are denoted by means of an arbitrary scale in which the loaf from No. 1 Northern Wheat is taken as standard.

SHAPE. The figures under this heading show, in each case, the ratio of the extreme height of the loaf above the pan to the extreme width above the pan. Considered in conjunction with those denoting the volume, these figures may be regarded as a measure of the strength of the flour.

ASH. The uniformity of the ash content of the samples is taken as an indication that the milling has been carried to the same extent in each case.

IRISH MIGRATORY AGRICULTURAL LABOUR.

The Wages Board Gazette of October 15, 1919, published by the Agricultural Wages Board in London, England, contains an article on Irish migratory labour, which states that in every country where agriculture is conducted on commercial lines farmers are accustomed to depend more or less on casual labour for the gathering of the harvest, though the extent to which such labour is engaged depends on a number of circumstances. The harvests of Germany were largely reaped before the war by wandering bands of Poles and Saxons, while large numbers of Italians went to Argentina every year for a similar purpose. In Great Britain it had been the custom for a very long time past for large gangs of Irish migratory workers to supplement the labour of English and Scotch farm hands in the fields during certain seasons of the year. When the annual migration began it is impossible to say, but it probably dates from the beginning of the eighteenth century. It is referred to by Bishop Berkeley in his "Querist", written in 1735, where he states that thousands of Frenchmen go to Spain every year in March to till the land and gather the harvest, returning at the end of November, and in late years, Irish labourers do the same in England. The disturbed condition of Ireland and the backward state of agriculture in England render it improbable that the movement began much earlier.

The system appears to have grown with the development of English agriculture under the influence of the bounty on the exportation of grain, and Lecky, writing of the closing years of the eighteenth century, says that, at the beginning of every autumn, the roads were crowded with barefooted and half-naked mountaineers who were

travelling on foot for 150 to 200 miles to work for the harvest in England. No definite statistical information, however, was obtained till 1841, when it was calculated that 57,651 labourers visited England of whom about 40,000 returned. No further attempt was made to get any trustworthy figures till 1880, but from that time till the beginning of the war some estimate can be made of the numbers leaving Ireland temporarily every year.

The statistics available from 1880 to 1915 show that the number enumerated as migrants in Ireland was 22,900 in 1880 and that this number gradually decreased to 10,855 in 1911. The number enumerated however does not represent the total, and in 1905 the total was estimated at 23,500 which decreased to 15,500 in 1911 and to 13,000 in 1915, since when no further information has been published.

The article proceeds to describe the distribution of Irish migratory agricultural labourers over the United Kingdom during the harvest season and shows that about 70 p.c. of the labourers went to England and 30 p.c. to Scotland.

Finally the report refers to the character of the services rendered, stating that it is universally agreed that these Irish labourers showed great skill and ability in certain classes of work. They were said to work with great rapidity in potato lifting, but were seldom put in charge of animals, being unaccustomed to the charge of horses on their own holdings. The men generally came to the same farm year after year. Some farmers have employed Irishmen and often the same Irishmen for twenty, forty, and even sixty years. They were always well-spoken of by the farmers, who found them respectable, hardworking, thrifty, and even well educated. They lived in "shants" or "bothys" on the farm, and almost invariably worked by the piece, at which they used to get as much as 40s. a week before the war, together with free lodging and milk or beer. They were very careful of their money, and some were known to have taken home as much as £20 in cash. It is not recorded that they ever gave trouble to the police. Unfortunately, their industry and frugality made them unpopular with the local labourers, who regarded them as interlopers, arriving at the time when the best wages were obtainable. The prejudice against the younger men was increased during the war by their immunity from military service. Many causes have contributed to the decline in the numbers of Irish migratory labourers, including the improved economic condition of the small landholder in Ireland, the increased railway fare to England, and the statutory minimum wages; so that it is probable that in the near future the annual influx will be much reduced.

THE WEATHER DURING SEPTEMBER.

The Dominion Meteorological Office reports that the temperature was above the average from British Columbia to Manitoba. In Ontario the average was exceeded, except well to the northward and northeastward in the province, while in Quebec and the Maritime Provinces it was from average to a little below. The chief widespread positive departures occurred in the peninsula of Ontario and in Saskatchewan, and varied between 1° and 5° and 3° and 4° respectively. In British Columbia the precipitation was well below the average generally, the deficit being marked over the Lower Mainland and in Cariboo. Northern Alberta, southern Saskatchewan, and western Manitoba recorded less than usual; in the other parts of the western provinces the average was exceeded, Prince Albert and Winnipeg giving marked excesses. In Ontario, over the Peninsula, except in a few counties, the rainfall was generally deficient, elsewhere it was nearly everywhere heavy and especially so from Muskoka northward. Haileybury registered 6.78 inches, Montreal River 6.15 inches and several places over 5 inches. In Quebec the rainfall was below the average, except in the extreme west and east portions, where positive departures of a half to one-and-a-quarter inch occurred respectively. In the Maritime Provinces in the Bay of Fundy district there was a deficiency, while in the other localities there was an excess of from one to nearly one-and-a-half inch.

PRICES OF AGRICULTURAL PRODUCE, 1919.

I. Weekly Range of Prices per bushel of Canadian Grain at Winnipeg and Fort William, 1919.

(Furnished by the Board of Grain Commissioners for Canada, Fort William, Ont.)

Grain and Grade.	Sept. 6.		Sept. 13.		Sept. 20.		Sept. 27.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—								
No. 1 Nor.....	2 15	—	2 15	—	2 15	—	2 15	—
No. 2 Nor.....	2 12	—	2 12	—	2 12	—	2 12	—
No. 3 Nor.....	2 08	—	2 08	—	2 08	—	2 08	—
No. 4.....	2 02	—	2 02	—	2 02	—	2 02	—
No. 4 Special.....	2 02	—	2 02	—	2 02	—	2 02	—
No. 5 Special.....	1 91	—	1 91	—	1 91	—	1 91	—
No. 6 Special.....	1 81	—	1 81	—	1 81	—	1 81	—
Feed.....	1 71	—	1 71	—	1 71	—	1 71	—
Oats—								
No. 2 C.W.....	0 87—0 89½		0 83½—0 89½		0 83½—0 88½		0 83—0 87½	
No. 3 C.W.....	0 85—0 87½		0 83—0 88½		0 83½—0 88½		0 82—0 87½	
No. 1 Feed Ex.....	0 84—0 87½		0 83—0 87½		0 83½—0 88½		0 82—0 87½	
No. 1 Feed.....	0 84—0 86½		0 82—0 87½		0 82½—0 87½		0 81—0 86½	
No. 2 Feed.....	0 81—0 83½		0 81—0 84½		0 81½—0 86½		0 80—0 86½	
Barley—								
No. 3 C.W.....	1 26—1 33½		1 24—1 27½		1 24½—1 25½		1 24½—1 26½	
No. 4 C.W.....	1 22—1 29		1 21—1 24½		1 21½—1 23½		1 22½—1 24½	
Rejected.....	1 17—1 22½		1 16—1 19½		1 16½—1 17½		1 11½—1 18½	
Feed.....	1 17—1 22½		1 15½—1 18½		1 15½—1 17½		1 11½—1 18½	
Flax—								
No. 1 N.W.C.....	5 06—5 50		4 80—5 15		4 69—4 94		4 40—4 78	
No. 2 C.W.....	4 86—5 20		4 55—4 95		4 44—4 69		4 15—4 53	
No. 3 C.W.....	4 61—4 86		4 30—4 70		4 19—4 44		3 90—4 28	

II. Monthly Range of Prices per bushel of Grain at Selected Markets in the United States, 1919.

(From the Monthly Crop Report of the United States Department of Agriculture.)

Grade and Market.	June.		July.		August.		September.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat, Red Winter, No. 2—								
St. Louis.....	2 35	—2 47	2 21	—2 42	2 21	—2 24½	2 21	—2 25
Chicago.....	2 32	—2 46	2 23	—2 29	2 23	—2 27½	2 23	—2 27
New York (f.o.b. afloat).....	2 38	—	2 38	—	2 38	—	2 38	—
Corn, No. 2, mixed—								
St. Louis.....	1 74	—1 85	1 81½	—2 04	1 88	—2 00	2 21	—2 47
Oats, No. 2—								
Chicago.....	1 71	—1 85½	1 79½	—2 10	1 83	—2 10	1 33	—1 83
Rye, No. 2—								
St. Louis.....	0 66	—0 71	0 70½	—0 83	0 67½	—0 76½	0 64	—0 71
Chicago.....	0 67½	—0 74	—	—	0 70½	—0 80½	0 65½	—0 74½
Chicago.....	1 38½	—1 53½	1 62	—1 64½	1 44½	—1 66½	1 43	—

III. Prices of Imported Grain and Flour at British Markets, 1919.

MARK LANE.

Description.	Sept. 1.	Sept. 8.	Sept. 15.	Sept. 22.	Sept. 29.
Wheat—	\$ c.	\$ c.	\$ c.	\$ c.	\$ c. \$ c.
Canadian No. 1.....	2 29½	2 29½	2 29½	2 29½	2 29½
Canadian No. 2.....	2 26½	2 26½	2 26½	2 26½	2 26½
Canadian No. 3.....	2 23½	2 23½	2 23½	2 23½	2 23½
American Spring.....	2 25	2 25	2 25	2 25	2 25
American hard winter...	2 29½	2 29½	2 29½	2 29½	2 29½
American red winter...	2 23½	2 23½	2 23½	2 23½	2 23½
Australian.....	2 32½	2 32½	2 32½	2 32½	2 32½
Argentine.....	2 26½	2 26½	2 26½	2 26½	2 26½
Oats—					
Canadian.....	1 57½	1 57½	1 57½	1 57½	1 57½—1 62½
American.....	1 52½	1 52½	1 52½	1 55½	1 55½—1 57½
Chilian.....	1 57½	1 57½	1 57½	1 60½	1 60½—1 65½
Argentine.....	1 70½	1 70½	1 70½	1 60½	1 60½—1 62½
Flour—					
Canadian Spring.....	11 25	11 25	11 25	11 25	11 25
American Spring.....	11 25	11 25	11 25	11 25	11 25
American winter.....	11 25	11 25	11 25	11 25	11 25
Australian.....	11 25	11 25	11 25	11 25	11 25

LIVERPOOL.

Description.	Sept. 2.	Sept. 9.	Sept. 16.	Sept. 23.	Sept. 30.
Wheat—	\$ c.	\$ c.	\$ c.	\$ c.	\$ c. \$ c.
Nor. Man. No. 1.....	1 92½	1 92½	1 93½	1 92½	1 92½
Nor. Man. No. 2.....	—	—	1 88½	—	—
Nor. Man. No. 4.....	—	—	1 81	—	—
Red winter No. 1.....	1 89½	1 89½	1 88½	1 89½	1 89½
Hard winter No. 1.....	1 92½	1 92½	1 94½	1 92½	1 92½
Hard winter No. 2.....	—	—	1 88½	—	—
Australian.....	1 94½	1 94½	1 95	—	1 94½

IV. Average Prices of British-grown Grain, 1919.

(From the "London Gazette," as published pursuant to s. 8 of the Corn Returns Act, 1882.)

Week ended.	Wheat.		Barley.		Oats.	
	per quarter.	per bushel.	per quarter.	per bushel.	per quarter.	per bushel.
	s. d.	\$ c.	s. d.	\$ c.	s. d.	\$ c.
July 5.....	73 4	2.231	62 4	1.820	49 0	1.298
July 12.....	73 3	2.228	63 1	1.842	49 11	1.323
July 19.....	73 4	2.231	62 9	1.832	49 11	1.323
July 26.....	73 4	2.231	63 4	1.849	48 11	1.296
Average.....	73 4	2.231	62 11	1.836	49 5	1.310
August 2.....	73 3	2.228	62 10	1.833	50 3	1.332
August 9.....	73 4	2.231	73 8	2.051	55 6	1.471
August 16.....	73 3	2.228	75 2	2.195	61 4	1.625
August 23.....	73 10	2.246	83 4	2.433	62 0	1.643
August 30.....	73 3	2.228	86 7	2.527	61 10	1.639
Average.....	73 5	2.232	76 4	2.208	58 2	1.542
September 6.....	73 4	2.231	89 3	2.606	61 1	1.619
September 13.....	73 5	2.233	92 5	2.698	62 4	1.652
September 20.....	73 4	2.231	94 7	2.762	61 3	1.623
September 27.....	73 0	2.220	95 2	2.780	60 2	1.594
Average.....	73 3	2.229	92 10	2.712	61 3	1.622

SCHEME OF CROP-REPORTING, 1919-20.

December.—Final estimates of yields per acre based upon reports of threshing results. Average market prices and weight per measured bushel of cereals.

January.—Farm values, including values of farm land, wages of farm help and values of farm live stock.

March.—Farm products on hand and percentage of merchantable quality. Condition of live stock.

April.—Areas winter killed of fall wheat, hay and clover. Condition of the growing crops of fall wheat and of hay and clover. Progress of seeding operations (Spring wheat, oats and barley). Dates of sowing and of appearance of wheat above ground.

May.—Preliminary estimate of areas, sown to spring wheat, oats, barley, rye, peas, mixed grains, hay and clover, alfalfa and pastures. Condition of these crops and also of fall wheat. Dates of sowing and of appearance of wheat above ground.

June.—Revised estimate of areas sown to spring wheat, oats, barley, rye, peas, mixed grains, hay and clover, alfalfa and pastures. Condition of these crops and of fall wheat. Areas of late-sown cereals and hoed crops, including buckwheat, flax, corn for husking, beans, potatoes, turnips, sugar beets, mangolds, carrots, etc., and corn for fodder. Dates of sowing and of appearance above ground of wheat. Dates of heading, flowering and milk-stage of wheat.

July.—Preliminary estimate of the yield per acre of fall wheat, hay and clover and alfalfa. Condition of spring wheat, oats, barley, rye, peas, beans, buckwheat, mixed grains, flaxseed, corn for husking, potatoes, turnips, mangolds, carrots, etc., hay and clover, alfalfa, corn for fodder, sugar beets and pasture. Dates of heading, flowering, milk-stage and cutting of wheat.

August.—Estimate of the yield per acre of spring wheat, rye, oats, barley and flax. Estimate of areas sown to these cereals that from any cause will not produce a crop. Condition of spring wheat, oats, barley, rye, beans, buckwheat, mixed grains, flaxseed, corn for husking, potatoes, turnips, mangolds, carrots, etc., hay and clover, alfalfa, corn for fodder, sugar beets and pasture. Dates of heading, flowering, milk-stage and cutting of wheat. Stocks of wheat, oats and barley in hand on August 31.

PUBLICATIONS
OF THE
Department of Trade and Commerce

- ANNUAL REPORT OF THE DEPUTY MINISTER.
- MAIL SUBSIDIES AND STEAMSHIP SUBVENTIONS (Annual).
- BOARD OF GRAIN COMMISSIONERS FOR CANADA (Annual).
- RULES AND REGULATIONS OF THE BOARD OF GRAIN COMMISSIONERS (Annual).
- LIST OF LICENSED ELEVATORS, ETC.
- GRAIN INSPECTION IN CANADA, (1914).
- WEEKLY BULLETIN, containing Reports of Trade Commissioners and other Commercial Information.
- PATENT OFFICE RECORD (WEEKLY).
- RULES AND FORMS OF THE CANADIAN PATENT OFFICE.
- CANADA AND THE BRITISH WEST INDIES (1915).
- CANADA THE COUNTRY OF THE TWENTIETH CENTURY (1915) 75c., \$1.00.
- HANDBOOK FOR EXPORT TO SOUTH AMERICA (1915).
- TRADE WITH CHINA AND JAPAN (1914).
- REVIEW OF COMMERCIAL INTELLIGENCE SERVICE (1916).
- RUSSIAN TRADE (1916).
- DIRECTORY OF RUSSIAN IMPORTERS (1915).
- THE GERMAN WAR AND ITS RELATION TO CANADIAN TRADE (1914).
- TOY MAKING IN CANADA (1916).
- THE TIMBER IMPORT TRADE OF AUSTRALIA (1917).
- FOOD INSPECTION BULLETINS.
- TRIAL SHIPMENT OF WHEAT, from Vancouver via the Panama Canal to the United Kingdom.
- GAS AND ELECTRICITY (Annual).
- WEIGHTS AND MEASURES (Annual).

For List of Publications of the Dominion Bureau of Statistics, see page iv of cover.

PUBLICATIONS

OF THE

DOMINION BUREAU OF STATISTICS.

THE CANADA YEAR BOOK, 1918, with Map of Canada and Newfoundland, a Statistical Summary of the Progress of Canada, Frontispiece and numerous other illustrations. (Jubilee-Volume). pp. 1-xvii, 1-686.

Contents: I The Story of Confederation, by Sir JOSEPH POPE, K.C.M.G., C.V.O. I.S.O., Under Secretary of State for External Affairs, Ottawa, with 2 illustrations; II Chronological History of Canada, 1497-1918; III Fifty years of Canadian Progress, 1867 to 1917, by ERNEST H. GODFREY, F.S.S., Editor, Dominion Bureau of Statistics, Ottawa; IV Physical Characteristics of Canada, including Geographical Features; Economic Geology in Canada, 1918, by WYATT MALCOLM, Department of Mines, Ottawa; V Area and Population; VI Education; VII Climate and Meteorology, including The Climate of Canada since Confederation, by Sir FREDERIC STUART, Director, Dominion Meteorological Service, Toronto; VIII Production: IX Trade and Commerce; X Transportation and Communications; XI Labour; XII Finance; XIII Administration; XIV Legislation in 1917 and 1918 and Principal Events of the Year 1918; XV Extracts from the Canada Gazette, 1917 and 1918.

THE CANADA YEAR BOOK. Second Series 1905-1917. [1910, 1913 and 1916-17, out of print.]

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. Nos. 1 to XIX.

REPORT OF THE FIFTH CENSUS OF CANADA, 1911.

Vol. I, 1912. Areas and Population by Provinces, Districts and Subdistricts with introduction. Tables I to XV, pp. i-viii, 1-623. [Out of print.]

Vol. II, 1913. Religions, Origins, Birthplace, Citizenship, Literacy and Infirmities by Provinces, Districts and Subdistricts, with Introduction. Tables I-XLVI, pp. i-iv, 1-634.

Vol. III, 1913. Manufactures for 1910 as enumerated in June 1911, with Introduction. Table I-XX, pp. i-xvi, 1-432. [Out of print.]

Vol. IV, 1914. Agriculture, with Introduction. Tables 1-90; I-XXXV, pp. i-xcv; 1-428. Diagrams, 5 pp. [Out of print.]

Vol. V, 1915. Forest, Fishery, Fur and Mineral Production, with Introduction. Tables 1-51; I-XXVI, pp. i-l, 1-171.

Vol. VI, 1916. Occupations of the People, with Introduction. Tables 1-25; I-VI, i-xxxi, 1-469. [Out of print.]

REPORT OF THE CENSUS OF POPULATION AND AGRICULTURE OF THE PRAIRIE PROVINCES, 1916. January 12, 1918. Tables 1-54; I-XXVI, pp. i-xiv; 1-356.

SPECIAL REPORT ON THE FOREIGN-BORN POPULATION. Abstracted from the Records of the Fifth Census of Canada, June 1911. 23 tables. 62 pp. 1915.

REPORT OF THE POSTAL CENSUS OF MANUFACTURES, 1916. pp. i-xi; 1-263, 1917.

REPORT ON THE CENSUS OF INDUSTRY, 1917. Part I. (AGRICULTURAL STATISTICS); Part II (DAIRY FACTORIES); Part III. (FISHERY STATISTICS); Part IV, Section 4 (PULP AND PAPER). Other Parts in preparation.

DIRECTORY OF THE CHEMICAL INDUSTRIES IN CANADA, as of date January 1, 1919, -68 pp. 1919.

EXTERNAL TRADE: ANNUAL REPORT OF THE TRADE OF CANADA; MONTHLY REPORT OF THE TRADE OF CANADA.

INTERNAL TRADE: ANNUAL REPORT ON THE GRAIN TRADE OF CANADA; ANNUAL REPORT ON THE COAL TRADE OF CANADA; MONTHLY PRODUCE BULLETINS, showing stocks in warehouse, in transit, etc.

CRIMINAL STATISTICS. Annual Report for Year ended September 30, 1917. pp. i-li, 1-270.

CENSUS AND STATISTICS MONTHLY, Vols. 1-10, 1908-1916; Vol. 10, Nos. 101-103, 1917. **MONTHLY BULLETIN OF AGRICULTURAL STATISTICS**, Vols: 10 to 12, Nos. 104-134, 1917-19.

REPORT OF CONFERENCE ON VITAL STATISTICS, June 19-20, 1918, pp. 1-48, 1918.

THE BEET SUGAR INDUSTRY, Bulletin IX, with 3 illustrations, pp. 1-75, 1909.

For list of Publications of the Department of Trade and Commerce, see page iii of cover.

Vol. 12

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OF

AGRICULTURAL STATISTICS

November, 1919.

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G.C.M.G., M.P., Minister of Trade and Commerce.



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Printer to the King's Most Excellent Majesty

1919

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MONTHLY BULLETIN OF AGRICULTURAL STATISTICS

VOL. 12

OTTAWA, NOVEMBER, 1919

No. 135

DOMINION STATISTICIAN: R. H. COATS, B.A., F.S.S. EDITOR: ERNEST H. GODFREY, F.S.S.
DOMINION BUREAU OF STATISTICS, OTTAWA, CANADA.

FIELD CROPS OF CANADA.

Report for the Month ended October 31, 1919.

The Dominion Bureau of Statistics issued (November 15, 1919) a bulletin showing the area estimated to be sown to fall wheat for the harvest of 1920 and the condition of this crop on October 31, the proportion of fall ploughing, and the percentage of summer fallowing.

AREA AND CONDITION OF FALL WHEAT.

The total area sown to fall wheat in Canada for the harvest of 1920 is estimated to be 776,400 acres, as compared with 714,700 acres last year, an increase of 9 p.c. The area sown in Ontario is placed at 717,000 acres, as compared with 652,000 acres last year, an increase of 10 p.c. In Alberta the area is 38,400 acres, as compared with 43,700 acres last year, a reduction of 12 p.c.; In the other provinces, where fall wheat is sown to a small extent, viz., Manitoba and British Columbia, the area in Manitoba is 6,400 acres, as against 6,100 acres last year, and in British Columbia it is 14,600 acres, as against 12,900 acres. The condition of fall wheat on October 31 is reported as 104 p.c., i.e., 4 p.c. above the decennial average, as compared with 102 p.c. last year and 87 p.c. in 1917. In Ontario the condition is 107 p.c., as compared with 102 p.c. last year and 87 p.c. in 1917; in Alberta the percentage is 98 for this year and last year and in 1917 it was 99. In Manitoba and in British Columbia the percentage is 97 this year. Last year the percentage in Manitoba was 71 and in 1917 it was 110. In British Columbia the percentage last year was 98, and in 1917 it was 82.

WEATHER CONDITIONS IN THE WEST.

Reports from crop correspondents and from the Dominion Experimental Farms and Stations indicated that the month of October was unusually cold. Wintry conditions set in after the first ten days, hindering threshing operations, interfering with fall ploughing, and resulting in the freezing in the ground of large quantities of potatoes, as well as in the loss of thousands of boxes of apples in British Columbia. Towards the end of the month temperatures below zero were experienced in Manitoba of 11 at Brandon, in Saskatchewan of 22 at Indian Head, of 11.8 at Rosthern, of 19 at Scott, and in Alberta of 15 at Lethbridge.

PROGRESS OF FALL PLOUGHING AND SUMMER FALLOW.

Owing to these exceptional weather conditions, the proportion of fall ploughing completed in Saskatchewan and Alberta was smaller

than in recent years, and this notwithstanding the very early harvest. In Saskatchewan only 30 p.c. of fall ploughing has been done this year, as compared with 39 p.c. last year and 37 p.c. the year before. In Alberta the proportion is 24 p.c., as compared with 35 last year and 38 p.c. in 1917. On the other hand, Manitoba shows the higher proportion of 64 p.c. as against 54 p.c. last year and 40 p.c. in 1917. In British Columbia the proportion is 56 p.c., as against 48 p.c. last year and 51 p.c. in 1917. In the Maritime Provinces the proportions are higher, being 82 p.c. in Prince Edward Island and 68 p.c. in Nova Scotia and New Brunswick, as compared with 75, 63 and 68 p.c. in these provinces last year. In Quebec 87 p.c. of fall ploughing is reported as completed as against 62 p.c. last year and in Ontario the proportion is 77 p.c. as against 64 p.c. The average percentage for the whole of Canada is 66, or 10 p.c. more than last year and 13 p.c. more than in 1917. As compared with last year, the area under summer fallow is for Canada about 6 p.c. less. In Ontario and in British Columbia the area is equal to that of last year; in Manitoba it is 6, in Saskatchewan it is 2 and in Alberta it is 15 p.c. less.

The Bureau issued (November 29) a further bulletin summarizing the results of the compilation of the annual statistics of areas under field crops and numbers of farm live stock, as collected from farmers throughout Canada during the months of June and July last in co-operation with the Provincial Governments of the nine provinces.

AREAS UNDER FIELD CROPS.

The total areas estimated to be sown in Canada to the principal field crops this year are, in acres, as follows, the figures for 1918 being shown within brackets for purposes of comparison: Fall wheat, 678,893 (416,615); spring wheat, 18,462,444 (16,937,287); all wheat, 19,141,337 (17,353,902); oats, 14,997,135 (14,790,336); barley, 2,645,509 (3,153,711); rye, 753,511 (555,294); peas, 224,685 (235,976); beans, 83,577 (228,577); buckwheat, 444,732 (548,097); flax, 1,093,115 (1,068,120); mixed grains, 900,234 (921,826); corn for husking, 264,607 (250,000); potatoes, 821,061 (735,192); turnips, etc., 314,620 (325,037); hay and clover, 10,595,383 (10,544,625); fodder corn, 511,769 (502,069). Of these crops the highest areas on record are established for wheat, oats, rye, potatoes, hay and clover and fodder corn. Beans have receded greatly since last year, when they were overproduced to a considerable extent; but the acreage is still about double what it was before the war.

YIELD OF PRINCIPAL FIELD CROPS.

According to the returns of crop correspondents at the end of September last, the average yields per acre of the principal crops were, in bushels, as follows, the corresponding averages for 1918 being given within brackets: Fall wheat, $23\frac{3}{4}$ (19); spring wheat, $9\frac{3}{4}$ ($10\frac{3}{4}$); all wheat, $10\frac{1}{4}$ (11); oats, $27\frac{1}{2}$ ($28\frac{3}{4}$); barley, 22 ($24\frac{1}{2}$); rye,

$14\frac{1}{2}$ ($15\frac{1}{4}$); peas, $16\frac{1}{2}$ ($13\frac{1}{4}$); beans, $17\frac{3}{4}$ ($15\frac{1}{2}$); buckwheat, $25\frac{1}{2}$ ($20\frac{3}{4}$); flax, $6\frac{1}{4}$ ($5\frac{3}{4}$); mixed grains, $29\frac{1}{2}$ ($38\frac{3}{4}$); corn for husking, 48 ($56\frac{3}{4}$); potatoes, $160\frac{3}{4}$ (142); turnips, etc., $334\frac{1}{4}$ ($377\frac{1}{2}$); hay and clover, 1.55 ton (1.40); fodder corn, 9.15 (9.50).

These averages represent the following total yields in bushels (or tons) as the second or provisional estimate of this year's crops, the final figures for 1918 being given within brackets: Fall wheat, 16,133,000 (7,942,800); spring wheat, 180,228,000 (181,132,550); all wheat, 196,361,000 (189,075,350); oats, 411,136,000 (426,312,500); barley, 58,336,000 (77,287,240); rye, 11,003,000 (8,504,400); peas, 3,722,800 (4,313,400); beans, 1,478,000 (3,563,380); buckwheat, 11,311,000 (11,375,500); flax, 6,767,000 (6,055,200); mixed grains, 26,519,000 (35,662,300); corn for husking, 12,691,000 (14,205,200); potatoes, 131,952,200 (104,346,200); turnips, etc., 105,184,600 (122,699,600); hay and clover, 16,527,800 tons (14,772,300); fodder corn, 4,722,000 tons (4,787,500).

In the Prairie Provinces the estimated production of wheat is 167,270,000 bushels from 17,750,167 acres, of oats 247,234,000 bushels from 9,452,386 acres, of barley 38,124,000 bushels from 1,800,745 acres, of rye 7,958,000 bushels from 573,218 acres, and of flax 6,433,000 bushels from 1,068,014 acres.

NUMBERS OF FARM LIVE STOCK.

The estimated numbers of farm live stock, based upon returns collected during June and July, are for the whole of Canada as follows, the corresponding figures for 1918 being placed within brackets for comparison: Horses, 3,667,369 (3,609,257); mules, 15,102 (10,261); milch cows, 3,547,437 (3,538,600); other cattle, 6,536,574 (6,507,267); total cattle, 10,084,011 (10,045,867); sheep, 3,421,958 (3,052,748); swine, 4,040,070 (4,289,682); hens, 31,785,722 (31,334,498); other descriptions comprising turkeys, geese and ducks, 2,859,516 (2,825,193); total poultry, 34,645,238 (34,159,691). Details by provinces are given in Tables I and II on pages 283 to 285.

Dominion Bureau of Statistics,
Ottawa, November 29, 1919.

ERNEST H. GODFREY,
Editor.

I. Area estimated to be sown to Fall Wheat in 1919, compared with 1918, and Condition on October 31, 1917, 1918 and 1919.

Province.	1918 Area sown.	1919 Area sown.	Increase (+) or Decrease (-).	Condition on October 31.		
				1917.	1918.	1919.
	acres.	acres.	p.c.	p.c.	p.c.	p.c.
Canada.....	714,700	776,400	+ 9	87	102	104
Ontario.....	652,000	717,000	+10	87	102	107
Manitoba.....	6,100	6,400	+ 5	110	71	97
Alberta.....	43,700	38,400	-12	99	98	98
British Columbia.....	12,900	14,600	+13	82	98	97

II. Progress of Fall Ploughing, 1916-1919.

NOTE.—100=Area of land intended for next year's crop.

Provinces.	1916.	1917.	1918.	1919.	Provinces.	1916.	1917.	1918.	1919.
	p.c.	p.c.	p.c.	p.c.		p.c.	p.c.	p.c.	p.c.
Canada.....	51	53	56	66	Ontario.....	54	47	64	77
P. E. Island.....	83	76	75	82	Manitoba.....	47	40	54	64
Nova Scotia.....	50	57	63	68	Saskatchewan....	28	37	39	30
New Brunswick	68	58	68	68	Alberta.....	21	38	35	24
Quebec.....	69	67	62	87	Brit. Columbia..	50	51	48	56

III. Percentage of Land under Summer Fallow, as compared with previous Years, 1916-1918.

NOTE.—100=Area under summer fallow in the previous year.

Provinces.	1916.	1917.	1918.	1919.	Provinces.	1916.	1917.	1918.	1919.
	p.c.	p.c.	p.c.	p.c.		p.c.	p.c.	p.c.	p.c.
Canada.....	92	90	90	94	Ontario.....	80	86	90	100
P. E. Island.....	91	98	96	84	Manitoba.....	104	97	96	94
Nova Scotia.....	86	89	90	92	Saskatchewan....	103	97	89	98
New Brunswick	82	80	83	91	Alberta.....	90	94	84	85
Quebec.....	84	81	91	95	Brit. Columbia..	91	75	81	100

IV. Areas and Provisional Estimate of the Yield of Cereal Crops for 1919, as compared with the Final Estimate of 1918.

Field Crops.	1918.	1919.	1918.	1919.	1918.	1919.
	acres.	acres.	bush. per acre.	bush. per acre.	bush.	bush.
Canada—						
Fall wheat.....	416,615	678,893	19.00	23.75	7,942,800	16,133,000
Spring wheat.....	16,937,287	18,462,444	10.75	9.75	181,132,550	180,228,000
All wheat.....	17,353,902	19,141,337	11.00	10.25	189,075,350	196,361,000
Oats.....	14,790,336	14,997,135	28.75	27.50	426,312,500	411,136,000
Barley.....	3,153,711	2,645,509	24.50	22.00	77,287,240	58,336,000
Rye.....	555,294	753,511	15.25	14.50	8,504,400	11,003,000
Peas.....	235,976	224,685	13.25	16.50	4,313,400	3,722,800
Beans.....	228,577	83,577	15.50	17.75	3,563,380	1,478,000
Buckwheat.....	548,097	444,732	20.75	25.50	11,375,500	11,311,000
Flax.....	1,068,120	1,093,115	5.75	6.25	6,055,200	6,767,000
Mixed grains.....	921,826	900,234	38.75	29.50	35,662,300	26,519,000
Corn for husking...	250,000	264,607	56.75	48.00	14,205,200	12,691,000
P. E. Island—						
Spring wheat.....	30,352	35,595	20.00	25.25	606,000	899,000
Oats.....	169,729	174,937	34.50	38.75	5,839,000	6,779,000
Barley.....	5,672	5,636	28.50	31.50	162,000	178,000
Peas.....	460	490	16.00	16.00	7,300	7,800
Buckwheat.....	5,592	4,094	21.75	30.25	122,000	124,000
Mixed grains.....	13,475	17,522	44.50	35.25	600,000	618,000
Nova Scotia—						
Spring wheat.....	32,737	28,931	22.25	22.00	728,000	637,000
Oats.....	145,036	158,838	37.25	36.50	5,403,000	5,798,000
Barley.....	11,571	13,894	30.00	28.00	347,000	389,000
Rye.....	551	1,046	14.50	25.25	7,700	26,000
Peas.....	1,753	1,896	18.75	22.50	33,000	43,000
Beans.....	8,829	6,859	16.25	19.00	143,000	130,000
Buckwheat.....	19,342	17,384	23.00	28.50	445,000	495,000
Mixed grains.....	5,407	8,628	36.00	32.00	195,000	276,000

IV. Areas and Provisional Estimate of the Yield of Cereal Crops for 1919, as compared with the Final Estimate of 1918.

Field Crops.	1918.	1919.	1918.	1919.	1918.	1919.
	acres.	acres.	bush. per acre.	bush. per acre.	bush.	bush.
New Brunswick—						
Spring wheat.....	49,453	35,641	19.00	21.00	940,250	748,000
Oats.....	224,442	305,484	31.50	32.25	7,051,400	9,852,000
Barley.....	6,601	10,662	24.75	25.25	163,140	269,000
Rye.....	308	353	16.25	17.25	5,000	6,000
Peas.....	4,077	4,697	14.75	28.00	60,100	132,000
Beans.....	5,491	6,409	15.50	17.25	85,580	111,000
Buckwheat.....	72,483	74,642	20.75	27.25	1,499,500	2,034,000
Mixed grains.....	4,292	5,297	32.50	29.50	139,900	156,000
Quebec—						
Spring wheat.....	365,670	251,089	17.25	17.50	6,308,000	4,394,000
Oats.....	1,932,720	2,141,107	27.25	28.50	52,667,000	61,022,000
Barley.....	189,202	234,892	24.00	24.00	4,551,000	5,237,000
Rye.....	29,063	33,481	16.25	17.25	472,000	578,000
Peas.....	107,386	81,642	15.50	15.25	1,664,000	1,245,000
Beans.....	109,803	43,202	17.00	18.75	1,867,000	810,000
Buckwheat.....	227,018	170,043	20.75	26.50	4,711,000	4,506,000
Flax.....	7,357	11,384	11.25	11.25	83,000	128,000
Mixed grains.....	194,288	157,637	27.00	28.40	5,246,000	4,477,000
Corn for husking....	54,690	43,603	21.75	27.50	1,190,000	1,199,000
Ontario—						
Fall wheat.....	362,616	619,494	19.50	24.25	7,054,800	15,023,000
Spring wheat.....	351,423	361,150	23.25	16.50	8,186,200	5,959,000
All wheat.....	714,039	980,644	21.25	21.50	15,241,000	20,982,000
Oats.....	2,924,468	2,674,341	45.00	28.50	131,752,600	76,219,000
Barley.....	660,404	569,183	36.75	24.25	24,247,700	13,803,000
Rye.....	112,726	140,502	16.00	16.50	1,813,000	2,318,000
Peas.....	113,862	127,253	21.00	17.00	2,381,000	2,163,000
Beans.....	100,082	22,920	13.75	15.50	1,387,800	355,000
Buckwheat.....	223,662	178,569	20.50	23.25	4,598,000	4,152,000
Flax.....	15,925	13,717	12.25	15.00	196,200	206,000
Mixed grains.....	619,389	628,761	44.25	29.25	27,462,400	18,391,000
Corn for husking....	195,310	221,004	66.75	52.00	13,015,200	11,492,000
Manitoba—						
Fall wheat.....	2,734	6,100	18.00	15.25	49,000	93,000
Spring wheat.....	2,980,968	2,874,201	16.25	15.00	48,142,100	43,113,000
All wheat.....	2,983,702	2,880,301	16.35	15.00	48,191,100	43,206,000
Oats.....	1,714,894	1,847,267	31.75	34.75	54,473,500	64,193,000
Barley.....	1,102,965	893,947	25.25	20.50	27,963,400	18,326,000
Rye.....	240,469	298,932	16.25	16.00	3,935,700	4,783,000
Mixed grains.....	30,309	30,355	28.25	25.00	856,000	759,000
Flax.....	107,961	57,379	10.00	11.00	1,091,000	631,000
Saskatchewan—						
Spring wheat.....	9,249,260	10,587,363	10.00	9.25	92,493,000	97,933,000
Oats.....	4,988,499	4,837,747	21.50	24.25	107,253,000	117,316,000
Barley.....	699,296	492,586	17.00	18.75	11,888,000	9,236,000
Rye.....	123,500	190,482	11.50	8.75	1,420,000	1,667,000
Peas.....	4,251	4,853	20.00	12.50	85,000	61,000
Beans.....	861	1,820	18.00	10.00	15,000	18,000
Mixed grains.....	23,449	22,017	21.00	35.00	492,000	771,000
Flax.....	840,957	929,945	5.00	6.00	4,205,000	5,580,000
Alberta—						
Fall wheat.....	44,065	40,600	15.00	16.75	661,000	680,000
Spring wheat.....	3,848,424	4,241,903	6.00	6.00	23,091,000	25,451,000
All wheat.....	3,892,489	4,282,503	6.00	6.25	23,752,000	26,131,000
Oats.....	2,651,548	2,767,372	22.75	23.75	60,323,000	65,725,000
Barley.....	470,073	414,212	16.50	25.50	7,756,000	10,562,000
Rye.....	47,877	83,804	17.25	18.00	826,000	1,508,000
Peas.....	1,994	1,603	18.00	18.00	36,000	29,000
Beans.....	763	690	18.00	18.00	14,000	12,000
Mixed grains.....	27,989	26,000	21.50	36.25	602,000	943,000
Flax.....	95,920	80,690	5.00	2.75	480,000	222,000

IV. Areas and Provisional Estimate of the Yield of Cereal Crops for 1919, as compared with the Final Estimate of 1918—con.

Field Crops.	1918.	1919.	1918.	1919.	1918.	1919.
	acres.	acres.	bush. per acre.	bush. per acre.	bush.	bush.
British Columbia—						
Fall wheat.....	7,200	12,699	24.75	26.50	178,000	337,000
Spring wheat.....	29,000	46,571	22.00	23.50	638,000	1,094,000
All wheat.....	36,200	59,270	22.50	24.00	816,000	1,431,000
Oats.....	39,000	90,042	39.75	47.00	1,550,000	4,232,000
Barley.....	7,927	10,497	26.50	32.00	209,000	336,000
Rye.....	820	4,911	30.00	23.75	25,000	117,000
Peas.....	2,193	2,251	21.50	18.75	47,000	42,000
Beans.....	2,748	1,677	18.50	25.00	51,000	42,000
Mixed grains.....	3,228	4,017	21.50	31.75	69,000	128,000

V. Provisional Estimate of the Yield of Wheat, Oats, Barley, Rye, and Flax in the three Prairie Provinces for 1919, as compared with the Final Estimate for 1918.

Crops.	1918.	1919.	1918.	1919.	1918.	1919.
	acres.	acres.	bush. per acre.	bush. per acre.	bush.	bush.
Fall wheat.....	46,799	46,700	17.75	16.50	825,800	773,000
Spring wheat.....	16,078,652	17,703,467	11.50	9.50	185,350,700	166,497,000
All wheat.....	16,125,451	17,750,167	11.50	9.50	186,176,500	167,270,000
Oats.....	9,354,941	9,452,386	28.00	26.25	261,114,800	247,234,000
Barley.....	2,272,334	1,800,745	24.00	21.25	54,607,900	38,124,000
Rye.....	411,846	573,218	18.50	14.00	7,651,190	7,958,000
Flax.....	1,044,838	1,068,014	7.00	6.00	7,430,700	6,433,000

VI. Estimated Areas, Yields, and Values of Potato, Root, and Fodder Crops, 1918 and 1919.

Field Crops.	Area.	Yield per acre.	Total Yield.	Average Price.	Total Value.
Canada—	acres.	bush.	bush.	\$ per bush.	\$
Potatoes.....	1918 735,192	142.00	104,346,200	0.98	102,235,300
	1919 821,061	160.75	131,952,200	0.95	124,707,200
Turnips, etc.....	1918 325,037	377.50	122,699,600	0.43	52,252,000
	1919 314,620	334.30	105,184,600	0.50	52,365,900
Hay and Clover.....	1918 10,544,625	1.40	14,772,300	16.25	241,277,300
	1919 10,595,383	1.55	16,527,800	20.68	341,869,200
Fodder corn.....	1918 502,069	9.50	4,787,500	6.15	29,439,100
	1919 511,769	9.15	4,722,000	6.81	32,140,500
Sugar beets.....	1919 24,500	8.25	202,000	10.85	2,191,700
Alfalfa.....	1918 196,428	2.25	446,400	17.84	7,963,500
	1919 226,869	2.40	540,200	21.61	11,677,400
Prince Edward Island—		bush.	bush.	per bu.	
Potatoes.....	1918 31,543	170.00	5,362,300	0.63	3,378,000
	1919 36,234	156.00	5,654,000	0.75	4,240,000
Turnips, etc.....	1918 8,246	520.50	4,292,000	0.29	1,244,700
	1919 12,337	430.25	5,308,000	0.36	1,912,000
Hay and Clover.....	1918 222,691	1.50	334,000	14.17	4,732,800
	1919 237,883	2.00	479,000	18.19	8,712,000
Fodder corn.....	1918 420	5.25	2,200	9.00	19,800
	1919 522	3.50	2,000	8.00	16,000

VI. Estimated Areas, Yields, and Values of Potato, Root, and Fodder Crops, 1918 and 1919.

Field Crops.	Area.	Yield per acre.	Total Yield.	Average Price.	Total Value
	acres.	bush.	bush.	\$ per bu.	
Nova Scotia—					
Potatoes.....1918	51,250	190.75	9,776,000	0.93	9,092,000
1919	62,060	161.00	9,992,000	1.09	10,891,000
Turnips, etc.....1918	23,823	391.25	9,320,700	0.58	5,406,000
1919	30,291	439.75	13,320,000	0.60	7,992,000
		tons.	tons.	per ton.	
Hay and Clover.....1918	605,464	1.45	878,000	20.00	17,560,000
1919	678,357	2.10	1,425,000	22.34	31,835,000
Fodder corn.....1918	4,644	9.50	44,000	9.00	396,000
1919	2,960	3.35	10,000	8.00	80,000
New Brunswick—		bush.	bush.	per bu.	
Potatoes.....1918	57,272	158.50	9,077,600	1.00	9,077,600
1919	75,573	178.50	13,489,000	0.97	13,072,000
Turnips, etc.....1918	18,507	350.00	6,477,500	0.58	3,757,000
1919	24,279	366.50	8,898,800	0.58	5,155,000
		tons.	tons.	per ton.	
Hay and Clover.....1918	740,637	1.50	1,111,000	15.30	16,998,300
1919	786,175	1.40	1,111,000	20.26	22,512,000
Fodder corn.....1918	3,459	4.50	15,600	10.00	156,000
1919	5,906	5.00	30,000	8.00	240,000
Alfalfa.....1918	1,178	1.50	1,800	9.00	16,200
Quebec—		bush.	bush.	per bu.	
Potatoes.....1918	264,871	147.00	38,936,000	0.98	38,157,000
1919	315,590	181.50	57,280,000	0.85	48,688,000
Turnips, etc.....1918	95,526	295.50	28,228,000	0.53	14,960,800
1919	87,496	317.50	27,780,000	0.53	14,723,000
		tons.	tons.	per ton.	
Hay and Clover.....1918	4,533,266	1.50	6,799,900	15.75	107,098,400
1919	4,299,360	1.50	6,449,000	20.54	132,462,000
Fodder corn.....1918	86,358	7.25	626,100	7.42	4,645,700
1919	74,007	8.25	611,000	8.41	5,139,000
Alfalfa.....1918	4,144	2.25	9,300	11.70	109,000
1919	28,488	2.35	67,000	14.22	953,000
Ontario—		bush.	bush.	per bu.	
Potatoes.....1918	166,203	116.60	19,376,000	1.26	24,413,000
1919	157,286	104.00	16,363,000	1.38	22,515,000
Turnips, etc.....1918	141,001	460.25	64,896,000	0.32	20,767,000
1919	120,353	329.25	39,617,000	0.32	12,867,000
		tons.	tons.	per ton.	
Hay and Clover.....1918	3,470,036	1.32	4,596,900	16.50	75,848,000
1919	3,508,266	1.65	5,728,000	20.66	118,313,000
Fodder corn.....1918	380,946	10.35	3,944,300	5.73	22,601,000
1919	399,549	9.60	3,837,000	6.18	23,726,000
Sugar beets.....1919	24,500	8.25	202,000	10.85	2,191,700
Alfalfa.....1918	144,010	2.28	329,000	15.78	5,191,000
1919	146,790	2.50	364,000	20.14	7,331,000
Manitoba—		bush.	bush.	per bu.	
Potatoes.....1918	45,000	185.00	8,325,000	0.56	4,662,000
1919	42,000	148.50	6,233,000	0.80	4,998,000
Turnips, etc.....1918	9,910	251.75	2,494,800	0.44	1,097,700
1919	6,045	199.25	1,205,000	0.61	738,000
		tons.	tons.	per ton.	
Hay and clover.....1918	74,000	1.00	74,000	16.00	1,184,000
1919	260,378	1.50	391,200	17.00	6,674,000
Fodder corn.....1918	12,340	5.50	67,900	10.50	713,000
1919	16,867	5.50	93,000	13.30	1,237,000
Alfalfa.....1918	3,600	2.25	8,100	18.00	145,800
1919	5,181	2.30	12,000	23.00	276,000
Saskatchewan—		bush.	bush.	per bu.	
Potatoes.....1918	59,793	116.25	6,950,900	0.96	6,672,900
1919	66,176	170.00	11,250,000	0.89	10,013,000
Turnips, etc.....1918	9,760	225.75	2,203,300	0.91	2,005,000
1919	13,932	257.75	3,591,000	1.12	4,022,000

VI. Estimated Areas, Yields, and Values of Potato, Root, and Fodder Crops, 1918 and 1919—con.

Field Crops.	Area..	Yield per acre.	Total Yield.	Average Price.	Total Value.
Saskatchewan—con.	acres	tons	tons	\$ per ton	\$
Hay and Clover.....1918	315, 117	1.15	362, 400	11.92	4, 319, 800
1919	265, 417	1.05	279, 000	17.00	4, 743, 000
Fodder corn.....1918	11, 186	5.65	63, 200	10.50	663, 600
1919	6, 690	12.50	84, 000	12.50	1, 050, 000
Alfalfa.....1918	6, 943	1.40	9, 700	17.50	169, 800
1919	11, 526	1.60	18, 400	27.50	506, 000
Alberta—		bush.	bush.	per bu.	
Potatoes.....1918	44, 247	70.50	3, 119, 400	1.11	3, 462, 500
1919	45, 848	179.75	8, 241, 200	0.83	6, 840, 200
Turnips, etc.....1918	12, 506	188.50	2, 357, 400	0.66	1, 555, 900
1919	12, 500	221.50	2, 768, 800	1.06	2, 934, 900
		tons	tons	per ton	
Hay and Clover.....1918	469, 000	0.85	398, 700	15.82	6, 307, 400
1919	433, 296	1.10	476, 600	20.89	9, 956, 200
Fodder corn.....1918	700	5.50	3, 800	10.50	40, 000
1919	900	5.58	5, 000	10.50	52, 500
Alfalfa.....1918	24, 285	2.00	48, 600	21.50	1, 044, 900
1919	21, 553	1.80	38, 800	29.16	1, 131, 400
British Columbia—		bush.	bush.	per bu.	
Potatoes.....1918	15, 013	228.00	3, 423, 000	0.97	3, 320, 300
1919	20, 294	170.00	3, 450, 000	1.00	3, 450, 000
Turnips, etc.....1918	5, 758	422.00	2, 429, 900	0.60	1, 457, 900
1919	7, 387	365.00	2, 696, 000	0.75	2, 022, 000
		tons	tons	per ton	
Hay and Clover.....1918	114, 414	1.90	217, 400	33.25	7, 228, 600
1919	126, 251	1.50	189, 000	35.25	6, 662, 000
Fodder corn.....1918	2, 016	10.10	20, 400	10.00	204, 000
1919	4, 368	11.50	50, 000	12.00	600, 000
Alfalfa.....1918	12, 268	3.25	39, 900	32.25	1, 286, 800
1919	13, 331	3.00	40, 000	37.00	1, 480, 000

CROP REPORTS FROM THE PROVINCES.

Maritime Provinces.—Extremely wet weather during October, followed by early and severe frosts, caused considerable rot in all root crops and prevented fall ploughing. In Prince Edward Island and New Brunswick potatoes were very poor, but in Nova Scotia they are reported to have been very good, except for rot in a few cases where fields were unsprayed. Other roots were only fair, turnips being affected by club root and by insect pests. Grain crops were good and hay was plentiful. The apple crop in Nova Scotia was the best in many years. Wet weather, as well as lack of help, has retarded all fall work.

Quebec.—Considerable difficulty was experienced this year during harvest time, on account of the heavy rains; but crops in general were housed in good condition. Grains, when threshed, were of good quality, but gave a light yield. There was an abundance of potatoes, but certain varieties are rotting in the cellars, which will cause the yield to diminish by one-half. Vegetables are cultivated in small quantities, principally for domestic use. Ploughing is very well advanced. There are complaints of shortage of labour.

Ontario.—Weather conditions throughout the province have been very favourable for fall work. Land is in good shape and fall ploughing is well advanced. A large acreage has been sown to fall wheat, which is a very promising crop. Hessian fly has affected some wheat. Hay, clover, and alfalfa were all of excellent quality and quantity. Spring grains were injured by the wet spring followed by heat and drought. Potatoes vary; in some instances they are almost a complete failure owing to wet weather causing rot, and early and severe frosts, which have kept many potatoes still in the ground. Others were an excellent yield and of good quality. Early sown potatoes were poor and few in a hill, but late ones were very good. Turnips generally suffered from insect attacks and were below average. Other roots were only fair and were scarcely enough for home consumption. Fodder corn was a very good crop, but was not sown extensively this season. Some farmers are sowing fall rye instead of fall wheat.

Manitoba.—Early frosts, followed by snowfalls, have caused a great number of potatoes to rot in the ground in almost every district. A few correspondents report potatoes to be of good quality but a light yield. Other roots are mostly grown for home consumption and have been very poor this year. Wheat rusted badly and the yield is only fair. Hay and clover are extremely good. Corn for fodder is plentiful. A shortage of labour has been felt in all districts.

Saskatchewan.—Early and severe frosts have done considerable damage to all late crops, preventing fall ploughing and delaying threshing. Some wheat was covered by snow while in stook, and a large proportion of oats remained still uncut or were in stook. Wild hay was very good. Great numbers of potatoes were frozen in the ground, and farmers will have scarcely enough for their own use. Other roots also suffered from frost. Cutworms in some districts affected turnips. One correspondent writes that many cattle were being sold for want of feed.

Alberta.—October was marked by early and severe frosts, and towards the end of the month heavy falls of snow. As a result, a considerable proportion of potatoes was frozen in the ground. Threshing was delayed and ploughing was prevented. A further reduction in the area sown to fall wheat is shown, but the condition of the crop was good. Smaller areas were under summer fallow this year owing to drought.

British Columbia.—Potatoes generally were a good crop, although early frosts affected many. Turnips, carrots, etc., were of very good quality but of light yield. Hay, clover, and alfalfa were very good. Very little fall ploughing has been done. The yield of apples has been the best in years, but some were affected by frost. Labour is scarce.

CROP REPORTS FROM PROVINCIAL GOVERNMENTS.

Ontario.—The Ontario Department of Agriculture reports (November 17) that the new fall wheat has a vigorous appearance, although there are a few complaints of injury from the Hessian fly. The acreage is decidedly larger than that of last year. Rye also looks promising. The tobacco crop in Essex has been practically all sold at 35 to 43 cents per lb. for Burley and 60 to 73 cents per lb. flue cured. Grey reports that sweet clover seed is selling at from \$14 to \$15 a bushel, but that sales are slower than they have been. Threshing is practically completed. More fall ploughing has been done than for years, although the frost of last week checked the work in some quarters. Labour on the whole has been sufficient for the demand, but Peel reports that good men are being offered as high as \$720 a year with house and garden.

Manitoba.—The Manitoba Department of Agriculture reports (November 6) that September and October have in some respects been quite unsatisfactory months from the farmer's viewpoint. The weather throughout September was very wet, delaying threshing greatly, and generally retarding farm work. Fortunately, the earliness of harvest and fine weather of August had hastened work in a remarkable way before the rains came. The soil froze up about mid-October, and shortly afterward was covered with a generous layer of snow. The soil almost everywhere is well supplied with moisture. Reports regarding the potato crop vary greatly, but the general run of them show that while a very light crop was grown in southern Manitoba, the parts north of the Canadian Pacific Railway main line had very much heavier yields, there being a bumper potato crop in the northern parts of Manitoba. Unfortunately, however, with heavier crops to thresh, farm work generally was most behind where the potatoes were heaviest, and many of the best potato plots remain undug. The figures supplied would suggest an average of about 140 to 150 bushels per acre for the province, but from this frost damage must be deducted. So far as can be seen, this frost damage would not be more than 8 or 10 p.c. for all areas south of the Riding Mountains, but north it runs up to 30 or 40 p.c. Fall rye seems to have been less sown this year than during recent falls. There seems to be rather a lack of spirit in regard to live-stock keeping, reflecting the market situation and the prospect of a long season of winter feeding, brought on by the earliness of snowfall. At most points there is a good supply of fodder.

Saskatchewan.—The Bureau of Statistics of the Saskatchewan Department of Agriculture reports (October 26) that owing to the frost of October 8 and following days, the total production of potatoes has been severely lessened practically in every part of the province. The amount of damage by the frost is estimated to be from 50 to 75 p.c., principally felt in the towns, many residents failing to get their potatoes harvested before the frost, therefore the surplus, if any, in the outlying districts, will be needed to supply provincial requirements. In the majority of cases the amount of potatoes grown is to meet local demands only.

COLLECTION OF ANNUAL AGRICULTURAL STATISTICS, 1919.

For the second successive year in respect of all the provinces, and for the third successive year in respect of the provinces of Quebec, Saskatchewan, Alberta and British Columbia, the Dominion Bureau of Statistics and the Provincial Governments have joined together in the collection of annual statistics of the areas under field crops and of the numbers of farm live stock. As previously explained,¹ the system adopted consists in the collection of completed cardboard schedules from as many individual farmers as it is possible to reach, in most cases through the instrumentality of the rural school teachers and children. For the year 1919 this plan was applied in each of the Maritime Provinces, in Quebec, Ontario, Saskatchewan and Alberta. Owing to the strike at Winnipeg, by which all transportation was stopped for a time, it proved to be impossible to issue the cards through the school teachers for the province of Manitoba, and they were therefore sent direct to farmers by mail, the names and addresses being furnished by the Manitoba Department of Agriculture. For British Columbia, as in previous years, the cards were also issued to farmers direct through the mails.

The following statement shows for 1919 the approximate number of farmers in each province, with the number and percentage of the schedules actually returned for the three years 1917, 1918 and 1919:

Province.	Number of Farms, 1919.	Number of Returns.			Percentage of Returns.		
		1917.	1918.	1919.	1917.	1918.	1919.
Prince Edward Island.....	13,705	—	7,766	3,770	—	54	27
Nova Scotia.....	53,634	—	20,868	12,136	—	38	24
New Brunswick.....	37,204	—	13,937	6,643	—	36	17
Quebec.....	143,958	28,133	34,894	24,735	21	20	17
Ontario.....	184,337	—	79,968	36,213	—	43	19
Manitoba.....	49,855	—	17,808	10,536	—	38	21
Saskatchewan.....	103,912	35,592	46,089	35,531	34	44	34
Alberta.....	67,603	14,444	13,574	4,919	21	20	7
British Columbia.....	13,743	6,886	6,534	7,970	46	42.5	58
Total.....	667,951	—	241,438	142,453	—	36	21.5

¹ Farms exceeding ten acres in extent.

It will be observed that the percentage of returns is considerably smaller this year than it was last year, except in British Columbia where as many as 58 p.c. of the total number of farmers receiving the schedule returned it duly completed. As already explained, the diminution in Manitoba is to be attributed to the strike at Winnipeg, owing to which the schedules could not be forwarded in time for issue to the school teachers. They had eventually to be returned

¹ Monthly Bulletin of Agricultural Statistics, October, 1918, p. 283.
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to Ottawa and distributed direct by mail. The consequence was that they reached farmers during the busiest time of the grain harvest instead of during the comparatively slack time between seeding and harvesting. This fact alone would probably account for the large falling off in the number of replies. The province of Alberta is dependent for stationery supplies upon Winnipeg, and the strike had the effect of delaying the issue of the cards from Edmonton. In a large number of cases they arrived after the closing of the schools and consequently too late for distribution. This year the largest percentage of returns was received by British Columbia, the proportion being 58 p.c. as against $42\frac{1}{2}$ p.c. last year and 46 p.c. the first year, viz., 1917. Saskatchewan's proportion of 34 p.c., though not so good as last year's 44 p.c., is equal to the percentage of 1917. Prince Edward Island 27 p.c., Nova Scotia 24 p.c. and Manitoba 21 p.c. come next in order. Of the remaining provinces, the percentages are Ontario 19, New Brunswick and Quebec 17 and Alberta 7. In Ontario the total estimates were calculated from the acreage of improved land and not from the number of farms. The replies received represented about 22 p.c. of the total improved acreage, as compared with about 50 p.c. last year.

Notwithstanding the efforts made to convince farmers that the annual collection of agricultural statistics is being undertaken in their own general interests and that it is entirely unconnected with plans of taxation, it is probable that the recent income tax legislation of the Dominion Parliament and the measures taken thereunder tended to lessen the number of returns by increasing the suspicion of farmers to the contrary, a suspicion which time should remove by proving it to be groundless.

NUMBERS OF FARM LIVE STOCK IN CANADA, 1919.

Statistics of the numbers of farm live stock in Canada in 1919 were collected from individual farmers throughout Canada in June and July last, and the replies received form the basis for the estimation of total numbers. The schedule embraced all descriptions of farm live stock, including poultry, horses and cattle being classified by ages. In Table I are given, by provinces, the totals, as jointly estimated by the statistical authorities of the Dominion and Provincial Governments for the year 1919, with comparative figures of the previous year.

For horses and cattle the numbers for 1919 constitute the highest on record. Sheep show a further very satisfactory increase since the annual decline in numbers was arrested in 1917. This year's total is the highest on record, and compares with 3,155,509, the number recorded in 1871 by the first Census after Confederation. Swine show a decrease of 249,612, as compared with last year's record number of 4,289,682.

In Table II are given the comparative totals for horses, cattle, sheep and swine for the six years 1914 to 1919. It should be observed that the figures of 1917, 1918 and 1919 for the provinces of Quebec,

Saskatchewan, Alberta and British Columbia and the figures of all the provinces for 1918 and 1919 cannot be regarded as strictly comparable with those of previous years, owing to the change in the methods of collection and estimation. It is not possible to distinguish clearly between actual changes and changes due to the statistical reform.

I. Numbers of Farm Live Stock in Canada by Provinces, 1918 and 1919.

CLASSIFICATION.—Horses: Stallions, 2 years old and over. Mares, 2 years old and over; Geldings, 2 years old and over. Colts and Fillies, under 2 years. Cattle: Bulls for breeding Milch Cows, Calves, under 1 year; Steers, 2 years old and over. All other cattle.

Province.	1918.	1919.	Province.	1918.	1919.
Canada—			P. E. Island—con.		
HORSES:			CATTLE:		
Stallions.....	44,979	49,084	Bulls.....	2,675	3,708
Mares.....	1,586,888	1,634,724	Milch Cows.....	41,429	45,662
Geldings.....	1,366,373	1,366,677	Calves.....	25,296	32,589
Colts and Fillies.....	610,674	616,884	Steers.....	5,078	4,299
Horses, n.o.p.....	343	—	Other cattle.....	36,043	39,219
Total.....	3,609,257	3,667,369	Total.....	110,521	125,477
MULES.....	10,261	15,102	SHEEP.....	73,046	114,955
CATTLE:			SWINE.....	40,814	49,510
Bulls.....	298,233	300,471	POULTRY:		
Milch Cows.....	3,538,600	3,547,437	Hens.....	547,963	575,647
Calves.....	2,380,126	2,424,229	Turkeys.....	7,026	9,388
Steers.....	858,165	840,319	Geese.....	27,375	26,544
Other cattle.....	2,970,743	2,971,555	Ducks.....	8,249	13,134
Total.....	10,045,867	10,084,011	Total.....	590,613	624,713
SHEEP.....	3,052,748	3,421,958	Nova Scotia—		
SWINE.....	4,289,682	4,040,070	HORSES:		
POULTRY:			Stallions.....	1,534	1,718
Hens.....	31,334,498	31,785,722	Mares.....	35,736	35,972
Turkeys.....	1,061,982	839,711 ¹	Geldings.....	26,278	27,056
Geese.....	879,177	802,869 ¹	Colts and Fillies.....	6,553	4,843
Ducks.....	884,034	777,692 ¹	Total.....	70,101	69,589
Total.....	34,159,691	34,645,238 ²	CATTLE:		
RABBITS (British Columbia only).....		83,050	Bulls.....	6,339	6,806
P. E. Island—			Milch Cows.....	157,829	162,230
HORSES:			Calves.....	87,428	82,481
Stallions.....	73	75	Steers.....	51,857	50,643
Mares.....	16,729	17,851	Other cattle.....	103,798	103,901
Geldings.....	11,918	12,455	Total.....	407,251	406,061
Colts and Fillies.....	3,900	4,195	SHEEP.....	259,847	261,529
Total.....	32,620	34,576	SWINE.....	68,238	69,982

¹ Not including Alberta.

² Including 439,244 other than hens in Alberta.

I. Numbers of Farm Live Stock in Canada by Provinces, 1918 and 1919—con.

Province.	1918.	1919..	Province.	1918.	1919.
Nova Scotia—con.			Ontario—		
POULTRY:			HORSES:		
Hens.....	825,789	813,715	Stallions.....	4,201	4,087
Turkeys.....	15,334	7,903	Mares.....	360,119	354,677
Geese.....	18,677	15,796	Geldings.....	273,820	269,390
Ducks.....	11,236	17,545	Colts and Fillies.....	94,837	91,415
Total.....	871,036	854,959	Total.....	732,977	719,569
New Brunswick—			CATTLE:		
HORSES:			Bulls.....	60,563	63,189
Stallions and geldings	28,059	32,027	Milch Cows.....	1,097,039	1,140,016
Mares.....	32,448	38,685	Calves.....	691,441	688,850
Colts and Fillies.....	6,083	7,116	Steers.....	257,272	260,204
Total.....	66,590	77,828	Other cattle.....	761,407	773,932
CATTLE:			Total.....	2,867,722	2,926,191
Bulls.....	9,924	12,370	SHEEP.....	972,341	1,101,740
Milch Cows.....	120,123	153,058	SWINE.....	1,656,386	1,695,487
Calves.....	67,298	83,857	POULTRY:		
Steers.....	20,524	25,163	Hens.....	11,100,281	10,573,506
Other cattle.....	68,878	90,574	Turkeys.....	376,609	327,802
Total.....	286,747	365,022	Geese.....	412,214	426,663
SHEEP.....	140,015	212,745	Ducks.....	392,001	377,838
SWINE.....	79,814	104,939	Total.....	12,281,105	11,705,809
POULTRY:			Manitoba—		
Hens.....	621,841	729,619	HORSES:		
Turkeys.....	28,395	30,627	Stallions.....	1,500	1,500
Geese.....	18,806	24,396	Mares.....	164,187	161,274
Ducks.....	10,370	12,056	Geldings.....	151,659	144,470
Total.....	674,412	796,698	Colts and Fillies.....	67,426	72,112
Quebec—			Total.....	384,772	379,356
HORSES:			CATTLE:		
Stallions.....	11,040	14,068	Bulls.....	34,271	19,021
Mares.....	237,816	213,192	Milch Cows.....	225,659	227,872
Geldings.....	200,293	184,132	Calves.....	172,171	207,577
Colts and Fillies.....	47,662	52,510	Steers.....	77,348	91,065
Total.....	496,811	463,902	Other cattle.....	237,450	236,236
CATTLE:			Total.....	746,899	781,771
Bulls.....	119,388	122,232	SHEEP.....	136,782	167,170
Milch Cows.....	1,163,865	1,056,347	SWINE.....	284,596	261,542
Calves.....	558,650	494,060	POULTRY:		
Steers.....	101,913	92,296	Hens.....	2,122,928	2,429,908
Other cattle.....	465,868	504,709	Turkeys.....	128,440	157,518
Total.....	2,409,684	2,269,644	Geese.....	51,103	61,025
SHEEP.....	959,070	1,007,425	Ducks.....	51,552	82,715
SWINE.....	997,255	935,425	Total.....	2,354,023	2,731,166
POULTRY:			Saskatchewan—		
Hens.....	4,944,021	3,457,480	HORSES:		
Turkeys.....	167,605	118,904	Stallions.....	13,624	15,002
Geese.....	157,665	124,380	Mares.....	400,786	476,289
Ducks.....	94,703	108,206	Geldings.....	383,377	393,802
Total.....	5,363,994	3,808,970	Colts and Fillies.....	192,222	193,359
			Total.....	990,009	1,078,452

I. Numbers of Farm Live Stock in Canada by Provinces, 1918 and 1919—con.

Province.	1918.	1919.	Province.	1918.	1919.
Saskatchewan—con.			Alberta—con.		
MULES.....	10,067	14,522	POULTRY:		
CATTLE:			Hens.....	2,701,820	3,987,131
Bulls.....	20,600	30,714	Turkeys.....	129,838	
Milch Cows.....	352,989	374,062	Geese.....	73,733	439,244
Calves.....	332,040	364,336	Ducks.....	116,942	
Steers.....	131,943	135,915	Total.....	3,022,333	4,426,375
Other cattle.....	441,759	474,536			
Total.....	1,279,331	1,379,563	British Columbia—		
SHEEP.....	134,177	146,911	HORSES:		
SWINE.....	521,240	432,367	Stallions.....	838	828
POULTRY:			Mares.....	18,687	18,734
Hens.....	7,491,692	8,079,351	Geldings.....	17,145	17,154
Turkeys.....	208,125	179,852	Colts and Fillies.....	7,118	7,001
Geese.....	113,493	112,103	Horses, n.o.p.....	343	—
Ducks.....	187,059	144,221	Total.....	44,131	43,717
Total.....	8,000,369	8,515,527	MULES.....	194	580
Alberta—			CATTLE:		
HORSES:			Bulls.....	5,247	4,157
Stallions.....	12,169	11,806	Milch Cows.....	50,965	51,594
Mares.....	320,380	318,050	Calves.....	48,132	41,591
Geldings.....	273,824	286,191	Steers.....	17,195	—
Colts and Fillies.....	184,873	184,333	Other cattle.....	124,591	148,896
Total.....	791,246	800,380	Total.....	246,130	246,238
CATTLE:			SHEEP.....	45,291	44,985
Bulls.....	39,226	38,274	SWINE.....	39,805	44,960
Milch Cows.....	328,702	336,596	POULTRY:		
Calves.....	397,670	428,888	Hens.....	978,163	1,139,365
Steers.....	195,035	180,734	Turkeys.....	5,610	7,717
Other cattle.....	730,949	599,552	Geese.....	6,111	11,962
Total.....	1,691,582	1,584,044	Ducks.....	11,922	21,977
SHEEP.....	332,179	364,498	Total.....	1,001,806	1,181,021
SWINE.....	601,534	445,858	RABBITS.....	—	83,050

II. Numbers of Farm Live Stock, 1914-1919.

Description.	1914.	1915.	1916.	1917.	1918.	1919.
Canada—	No.	No.	No.	No.	No.	No.
Horses.....	2,947,738	2,996,099	3,258,342	3,412,749	3,609,257	3,667,369
Milch cows.....	2,673,286	2,666,846	2,833,433	3,202,283	3,543,600	3,547,437
Other cattle.....	3,363,531	3,399,155	3,760,718	4,718,657	6,507,267	6,536,574
Total cattle.....	6,036,817	6,066,001	6,594,151	7,920,940	10,050,867	10,084,011
Sheep.....	2,058,045	2,038,662	2,022,941	2,369,358	3,052,748	3,421,958
Swine.....	3,434,261	3,111,900	3,474,840	3,619,382	4,289,682	4,040,070
P. E. Island—						
Horses.....	36,114	36,898	38,562	38,948	32,620	34,576
Milch cows.....	47,317	47,043	46,032	46,032	41,429	45,662
Other cattle.....	61,048	59,503	57,260	54,970	69,092	79,815
Total cattle.....	108,365	106,546	103,292	101,002	110,521	125,477
Sheep.....	85,351	86,640	88,797	90,573	73,046	114,955
Swine.....	41,718	40,792	38,300	35,236	40,814	49,510

II. Numbers of Farm Live Stock, 1914-1919.—*Con.*

Description.	1914.	1915.	1916.	1917.	1918.	1919.
	No.	No.	No.	No.	No.	No.
Nova Scotia—						
Horses.....	62,581	63,244	64,193	64,193	70,101	69,589
Milch cows.....	128,237	128,814	130,141	131,442	157,829	162,230
Other cattle.....	148,269	144,458	140,673	135,046	249,422	243,831
Total cattle.....	276,506	273,272	270,814	266,488	407,251	406,061
Sheep.....	211,921	205,542	200,979	200,979	259,847	261,529
Swine.....	53,892	53,402	51,928	49,850	68,238	69,982
New Brunswick—						
Horses.....	65,702	65,827	65,169	65,169	66,590	77,828
Milch cows.....	102,713	101,665	100,221	100,221	120,123	153,058
Other cattle.....	99,256	96,437	92,223	89,456	166,624	211,964
Total cattle.....	201,969	198,102	192,444	189,677	286,747	365,022
Sheep.....	121,739	111,026	105,997	103,877	140,015	212,745
Swine.....	73,325	72,533	70,683	69,269	79,814	104,939
Quebec—						
Horses.....	372,009	372,567	332,628	379,276	496,811	463,902
Milch cows.....	733,476	720,420	639,805	911,023	1,163,865	1,056,347
Other cattle.....	625,958	612,500	535,683	958,010	1,245,819	1,213,297
Total cattle.....	1,359,434	1,332,920	1,175,498	1,869,033	2,409,684	2,269,644
Sheep.....	571,287	554,491	497,711	849,148	959,070	1,007,425
Swine.....	634,569	632,729	531,303	712,087	997,255	935,425
Ontario—						
Horses.....	904,975	903,527	896,208	887,246	732,977	719,569
Milch cows.....	1,085,843	1,077,808	1,082,119	1,082,119	1,102,039	1,140,016
Other cattle.....	970,445	935,606	901,924	865,847	1,770,683	1,786,175
Total cattle.....	2,056,288	2,013,414	1,984,043	1,947,966	2,872,722	2,926,191
Sheep.....	640,416	611,789	589,581	595,477	972,341	1,101,740
Swine.....	1,553,624	1,469,573	1,404,618	1,236,064	1,656,386	1,695,487
Manitoba—						
Horses.....	316,707	317,847	324,175	324,175	384,772	379,356
Milch cows.....	156,306	157,494	196,288	202,177	225,659	227,872
Other cattle.....	251,996	246,603	357,870	357,870	521,240	553,899
Total cattle.....	408,302	404,097	554,158	560,047	746,899	781,771
Sheep.....	45,303	50,880	76,750	80,588	136,782	167,170
Swine.....	186,276	163,308	205,898	175,013	284,596	261,542
Saskatchewan—						
Horses.....	609,521	630,062	841,907	880,301	990,009	1,078,452
Milch cows.....	204,624	211,684	322,185	354,403	352,989	374,062
Other cattle.....	474,436	543,609	689,208	856,687	926,342	1,005,501
Total cattle.....	679,060	755,293	1,011,393	1,211,090	1,279,331	1,379,563
Sheep.....	126,027	133,311	124,237	127,892	134,177	146,911
Swine.....	454,703	411,324	530,727	573,938	521,240	432,367
Alberta—						
Horses.....	519,424	544,772	634,188	718,317	791,246	800,380
Milch cows.....	179,068	183,974	277,324	325,861	328,702	336,596
Other cattle.....	633,032	660,000	882,766	1,209,433	1,362,880	1,247,448
Total cattle.....	812,100	843,974	1,160,090	1,535,294	1,691,582	1,584,044
Sheep.....	211,001	238,579	292,620	276,966	332,179	364,498
Swine.....	397,123	229,696	603,554	730,237	601,534	445,858
British Columbia—						
Horses.....	60,705	61,355	61,312	55,124	44,131	43,717
Milch cows.....	35,702	37,944	39,318	49,005	50,965	51,594
Other cattle.....	99,091	100,439	103,101	191,338	195,165	194,644
Total cattle.....	134,793	138,383	142,419	240,343	246,130	246,238
Sheep.....	45,000	46,404	46,269	43,858	45,291	44,985
Swine.....	39,021	38,543	37,829	37,688	39,805	44,960

DOMINION EXPERIMENTAL FARMS AND STATIONS.

Central Farm, Ottawa.—On the whole, the weather during October has been fine, with no very severe frost—the bright sunshine averaging 4.05 hours a day, as compared with 4.32 hours a day

a year ago, and the precipitation amounting to 4.91 inches as against 5.17 inches for the corresponding period of last year, both of these totals being a good deal above the average for rainfall. The highest temperature recorded is 75, the lowest 25, and the mean is 45.71; while in 1918 the maximum was 68, the minimum 27, and the mean temperature 47.13.

At the Experimental Farm potatoes were taken out of the ground in the early part of October, an area of a little more than three acres yielding upwards of 175 bushels per acre. Turnips and mangolds, which were dug in the latter half of the month, yielded less than usual. Fall ploughing has been completed.

The chief event has been the ploughing match and tractor demonstration, which took place from October 14th to 16th, on the Experimental Farm and on the adjoining Booth farm, under the auspices of the Eastern Ontario and Western Quebec Ploughmen's Association.

Charlottetown, P.E.I.—J. A. Clark, Superintendent, reports: "October has been showery, with quite a number of dull days, but conditions have been very favourable for autumn work. Severe frosts occurred on the nights of the 8th and 20th, which killed down the last of the potato tops and other tender plants. Potatoes have been dug and stored in good shape. The tuber crop in general is a good one, although some rot was reported in early potatoes in certain sections. During the month mangolds have been harvested, and about one-half of the turnip crop has been saved—both averaging well. Pastures have been good, and live stock is going into winter quarters in splendid shape."

Kentville, N.S.—W. S. Blair, Superintendent, reports:—"The temperatures recorded during October range lower than usual, the mean being 45.2; while 48.1 was the average mean temperature for the corresponding period of the five previous years. There was a very heavy frost on the 21st, when the Station thermometer dropped to 20°; in other localities as low as 14°, or 18° of frost is reported. The weather, as usual at this time of the year, has been wet, the precipitation totalling 3.93 inches, and showers being recorded on 15 different days, as against an average rainfall of 4.81 inches for October from 1914 to 1918. The bright sunshine aggregates 124.5 hours, none whatever being registered on 11 days; while the average for this month during the five previous years was 153.7 hours. These conditions have seriously interfered with the proper gathering of the fruit crop, which is the heaviest on record. Had it not been for the exceptionally severe frost on the 21st, all the fruit would have been secured in good condition, but this cold spell has so affected its keeping qualities as to necessitate the marketing of it without delay."

Nappan, N.S.—W. W. Baird, Superintendent, reports:—"The weather conditions during October have been rather unsettled, though the second two weeks in the month were fairly fine. From the 2nd to the 11th rain was recorded on four different dates. From the 17th to the 31st, rain was recorded on six different dates, giving a total precipitation of 2.5 inches, as compared with 5.1 inches for

the previous year. The mean temperature is 43.11, as compared with 46.86 for the previous October. The lowest temperature is 20, recorded on the night of the 21st. The unfavourable weather prevailing during the last two weeks of the month has made the harvesting of potatoes and turnips very difficult. Potatoes have all been stored in fair condition, but there remains a large area of turnips to be pulled. In potatoes, especially as regards some varieties, rot is very prevalent, while the turnip crop is much below the average. The season apparently has been most unfavourable. The market demand for most farm produce has been good, but, as regards apples, owing to a heavy crop, the market has become very dull."

Fredericton, N.B.—W. W. Hubbard, Superintendent, reports :—" October, while cloudy, has been, on the whole, a favourable month for farm work. Frosts have been somewhat heavier than usual, but the mean temperature is about as usual and the precipitation over an inch less than the average. Potatoes were dug in good time and in good condition, while about one-half of the turnip crop has been gathered in by the 31st. Threshing has been quite general, with good yields of grain. Potatoes, also, are a heavy crop, though unsprayed fields showed a large percentage of rot, some growers having as much as 75 p.c. affected. Fall ploughing is well advanced. Live stock has done fairly well and is going into winter quarters in good flesh."

Ste. Anne de la Pocatière, Que.—Jos. Begin, Superintendent, reports :—" The weather during October has been unsettled and unfavourable for the harvesting of crops. Although the precipitation totals only 2.44 inches, rain fell on eleven different days, and two inches of snow has fallen on four different days during the last week of the month. The highest temperature recorded is 62.9, the lowest 24.2, and the mean 42.4, being a little lower than usual for the same period in previous years. The bright sunshine averages 3.51 hours a day, compared with 3.94 hours a day in October, 1918. The frequent rains have interfered with the harvesting of late cereals and potatoes. Some of the grain was got in on occasional fine days about the middle of the month, after having suffered in the field. Potato digging was completed about the 25th, the crops turning out well, except where there has been more loss from rot than usual for those tubers dug after the 10th. Mangolds and turnips have been harvested in good condition at the Station, with yields above the average, but, in the district, some remain to be dug at the end of the month, the scarcity of farm labour being responsible for this. Fall ploughing is backward as compared with last year."

Cap Rouge, Que.—G. A. Langelier, Superintendent, reports :—" October has been colder, drier, and brighter than the average of the corresponding period for the last seven years, the figures being, respectively, 42.57 and 44.82 for mean temperature, 4.04 and 4.43 inches for precipitation, and 123.5 and 95.1 hours for sunshine. At the end of the month, all crops, including roots, are in, and practically all the ploughing has been finished. Two hundred birds have arrived

from different points in Quebec and Ontario for the egg-laying contest, which will last a year. Some of the Station Barred Rock pullets have commenced to lay, and it will be interesting to compare the Cap Rouge fowl with those sent for the laying contest."

Lennoxville, Que.—J. A. McClary, Superintendent, reports:—"The weather during October has been dull and wet, rain falling on fourteen days, and giving a total precipitation of 6.63 inches, compared with 6.19 inches last year. The highest temperature for the month is 74, the lowest 18, and the mean 43.93; while a year ago the maximum was 71, the minimum 20, and the mean temperature 45.54. The bright sunshine averages 3.32 hours a day, compared with 3.46 hours a day for the corresponding period last year. Mangolds and turnips are practically all harvested, the crop being an average one. Ploughing has been somewhat delayed, on account of the wet weather during the month. No severe frosts have been recorded. In this district very little live stock, except dairy cows, has yet been housed for the winter."

Brandon, Man.—W. C. McKillican, Superintendent, reports:—"October, on the whole, has been an exceptionally cold month. The first nine days were moderate, but after that there was severe frost every night, and from the 20th to the 31st there has been no thawing out, even in the daytime. On the night of the 26th the temperature dropped to -11, which is the lowest on record for October by a wide margin. No ploughing has been done since the 20th, this being the earliest freeze-up on record. The mean temperature for the month is 29.7, which is also a low record for October. Twelve inches of snow has fallen and none of it has melted. As is obvious, conditions have been unfavourable for farm work. Even though the harvest was unusually early, there is still some threshing to be done. Very little fall ploughing has been done, and some farmers have been unable to get all their potatoes and roots dug. On the Experimental Farm, however, the last crop of the season, consisting of turnips, was got in during the first week of the month; while a large amount of manure has been spread and fall ploughing is almost completed."

Indian Head, Sask.—N. D. Mackenzie, Acting Superintendent, reports:—"October set in with a heavy rainfall on the 1st, followed by warm weather up to the 8th. On the 9th the temperature suddenly dropped, and regular winter weather set in, which has continued to the end of the month. Owing to the early harvest, considerable fall work had been completed before the land froze up; but, as usual, a number have been caught with their fallows in poor shape. In this district the bulk of the potato crop is still in the ground and is a total loss. At this point, approximately 70 p.c. of the wheat has been delivered to the elevators."

Rosthern, Sask.—W. A. Munro, Superintendent, reports:—"On October 8th, the ground froze up rather unexpectedly and it has remained in this condition. Many farmers throughout the district had not dug their potatoes, and it is estimated that, in the northern

part of Saskatchewan, there are several hundred thousand bushels frozen in the ground. The unexpected freeze-up has made it impossible to get as much fall ploughing done as usual. On the Experimental Station, the potato crop was saved and most of the fall ploughing has been attended to."

Scott, Sask.—M. J. Tinline, Superintendent, reports:—"October has been unusually cool, and the mean temperature, 26.4, is much the lowest on record for this month at the Station. Winter commenced on the 8th, with a snowfall of three inches, and, by the 9th, the ground was frozen too hard for ploughing. From the 21st to the 24th, seven inches of snow fell. The exceptionally early winter has caught many farmers unprepared; some grain still remains in the stook, and many potatoes are frozen in the ground."

Lacombe, Alberta.—B. C. Milne, Assistant to the Superintendent, reports:—"The most wintry October in the history of this Station has just been experienced. A cold spell, which set in about the 9th, has hindered threshing operations, interfered with fall ploughing, and frozen many potatoes in the ground. The temperature moderated about the middle of the month, and fall ploughing was resumed in a few cases where threshing had been finished. Cold weather again set in on the 22nd and no ploughing has been done at this Station since the 21st. Snow, which fell in different localities in central and northern Alberta to a depth of from three to eighteen inches, has made the completion of shock and stack threshing difficult. It is estimated that only five p.c. of the fall ploughing has been finished in this district. The early winter has necessitated the feeding of live stock, and the cost of feed is advancing. Cattle prices have declined somewhat during the month, and, at times, the yards at Calgary have been congested. Hogs are quoted at \$16.50 off cars at Calgary, with receipts light."

Lethbridge, Alberta.—W. H. Fairfield, Superintendent, reports:—"The greater part of October has been unusually cold. On the nights of the 8th and 9th the temperature dropped to 15° and 9°, respectively. As only part of the potatoes in this district were dug, considerable damage to the crop resulted. On the night of the 22nd the thermometer dropped to nearly zero, and, for four successive nights, it registered from -10° to -15°; and, although there was some snow on the ground, there is no doubt that any potatoes that were not dug have been entirely ruined. In southern Alberta this loss will aggregate many thousand bushels. During the last ten days of the month, over a foot of snow has fallen, and, with the extremely cold weather, much hardship is being inflicted on range stock, owing to the fact that many ranchers and farmers have not received delivery of their winter's supply of hay and feed. The dry-land grain farmers take the view that the fall of nearly two inches of moisture during the month has improved crop prospects for next season very materially."

Invermere, B.C.—R. G. Newton, Acting Superintendent, reports:—"The past month has been the coldest October on record at this

Station, the mean temperature, 35.2° , being considerably lower than the average for this month. Frost has been registered on twenty-six days, the severest being on the 25th, when the thermometer fell to 6. Some losses of roots and potatoes, through freezing, are reported in the district. At the Experimental Station, fall ploughing was finished before winter conditions set in, and the threshing of all cereals had been completed, some good yields being obtained. In the variety tests, oats average 84 bushels, wheat 34 bushels, and peas 71 bushels per acre. The potato crop is above the average, both in yield and quality; ten plots, of a total area of half an acre under a fertilizer experiment, have yielded at the rate of 19.5 tons per acre, while the thirty-two plots in the variety tests averaged over 15 tons per acre. The general lack of moisture during the entire growing season has detrimentally affected the range pastures, and, while the stock still on range appears to be in good condition, the prospects for animals to be wintered in the open is unfavourable."

Summerland, B.C.—R. H. Helmer, Superintendent, reports:—"October, 1919, will be remembered in the Okanagan Valley for many years to come. Frost was recorded on the 9th, when the thermometer went down to 29° ; this did practically no damage at the Station, but killed tomatoes and other tender plants on the higher benches. On the 24th, the thermometer dropped to 20° , and it has kept low to the end of the month. Thousands of boxes of apples have been ruined, while potatoes and other field crops have been badly damaged. A shortage of both boxes and cars is blamed for apples not being picked. Growers had been advised to pick their apples and place them on the ground and cover them with sacks and hay, as the season was getting late, and the apples of the few who followed this advice are perfectly good. The fall fairs are now over for the season, this Station having attended eight of them with an exhibit. Weather conditions have been very unfavourable for large crops of roots and grain; a very late, cold spring kept everything back, while early frost has killed much."

Agassiz, B.C.—W. H. Hicks, Superintendent, reports:—"This has been the coldest October since temperature records have been kept on the Experimental Farm, commencing in 1892. Early in the month the weather was dry, with bright, warm days and cool nights. In a great many parts of the Fraser valley, corn was badly frozen during the first week, but this frost did not occur in the Agassiz valley. The middle of the month was damp, cool, and cloudy, with considerable precipitation, which assisted the root crops and also helped the local water supply, although well-water is still very limited. On the 23rd another sudden change took place in the weather, very strong winds blowing from the north and frost occurring during the nights. The climax was reached on the 26th, when the wind calmed down, and twelve degrees of frost was recorded. It was feared, at first, that the severe frost would destroy the mangold crop, but, at the close of the month, the roots show no ill effects from their freezing. Two inches of snow have fallen in the valley

at different intervals. This unusual October weather has necessitated stabling stock rather early. Generally speaking, live stock is in good condition. The fact that a good deal of the corn is frozen, combined with the light root crop and early stabling, will have a tendency to create high feed prices. Dairy and poultry products are in demand at good prices. Eggs are selling around 90 cents per dozen at the close of the month."

Sidney, Vancouver Island, B.C.—Lionel Stevenson, Superintendent, reports:—"October has been unusually dry and bright. The mean temperature for the month is 48°, two and one-half degrees below the average. The highest temperature is 67°, recorded on the 6th, and the lowest, 32°, on the 25th. On the ground, however, the thermometer fell to 26° on the 25th. On six days, the ground thermometer registered frost. The rainfall totals 1.30 inch, or less than one-half the average for October. The sunshine aggregates 135.5 hours, which is a little above the average. Threshing, straw baling, and silo filling, in the district, have been completed without loss. Very little ploughing has been done, owing to the dry condition of the soil. No autumn seeding has been done during the month. The gathering of apples and pears has been completed. Pastures have improved, and live stock generally is in good condition. The harvesting of potatoes and roots has been completed, the yields being below the average."

Meteorological Record for October, 1919.

The records of temperature, precipitation, and sunshine at the several Experimental Farms and Stations for the month of October are given in the following table:—

Experimental Farm or Station at—	Degrees of Temperature F.			Precipitation in inches.	Hours of Sunshine.	
	High-est.	Low-est.	Mean.		Pos-sible.	Actual.
Ottawa, Ont.....	75.0	25.0	45.71	4.91	339	125.8
Charlottetown, P.E.I.....	65.0	26.0	44.05	3.71	339	113.8
Kentville, N.S.....	66.0	20.0	45.20	3.93	339	124.5
Nappan, N.S.....	64.0	20.0	43.11	2.50	339	127.0
Fredericton, N.B.....	62.0	19.0	43.50	2.90	338	121.8
St. Anne de la Pocatière, Que.....	62.9	24.2	42.40	2.44	336	109.0
Cap Rouge, Que.....	62.0	21.2	42.57	4.04	339	123.5
Lennoxville, Que.....	74.0	18.0	43.93	6.63	339	103.0
Brandon, Man.....	72.0	-11.0	29.70	1.92	333	145.9
Indian Head, Sask.....	73.0	-22.0	26.35	1.44	331	118.4
Rosthern, Sask.....	64.5	-11.8	26.33	0.55	334	102.1
Scott, Sask.....	69.0	-19.0	26.40	1.22	335	100.7
Lacombe, Alberta.....	72.6	10.6	27.90	0.64	328	97.7
Lethbridge, Alberta.....	73.0	-15.0	31.95	1.78	331	143.7
Invermere, B.C.....	70.0	6.0	35.20	0.70	332	121.3
Summerland, B.C.....	69.0	20.0	43.66	1.11	333	134.2
Agassiz, B.C.....	68.0	20.0	46.11	5.90	334	116.5
Sidney, Vancouver I., B.C.....	67.0	32.0	48.00	1.30	335	135.5

November 12th, 1919.

E. S. ARCHIBALD,
Director Experimental Farms.

CROP REPORTS FROM OTHER COUNTRIES.

England and Wales.—The Board of Agriculture reports (November 1) that the few outstanding grain crops in the hilly districts have now been all gathered in. Although the yields of all the three grain crops are short, the quality and condition of the wheat are everywhere good; and this is generally the case with barley also. Oats are not so good; in most cases their condition is satisfactory, but in some parts the quality is reported to be inferior. The straw of all three cereals is short. The bulk of the potato crop has now been lifted; the tubers are generally small, so that the crop is light, but they are sound, and unusually free from disease, except in the south-west, where a certain amount is reported. Variable progress has been made with pulling mangolds; over most of the country the work is in full swing. The crop is light, but the roots are sound. Very few turnips or swedes have yet been lifted, as they are still growing. They have generally improved somewhat during the month, but are nevertheless still a very small crop. Very good progress has been made with autumn cultivation; the weather throughout the month having been most favourable, although, particularly in the south-eastern half of the country, the ground has in some few places been too dry to work or drill. On the whole, however, the work is well forward for the time of year, and a large proportion of the winter grain has been sown, the seed going into a good seed-bed. In some instances, in the south, the young plants are showing above ground, and look well.

Australia.—The following are, for the State of Victoria, the estimated yields of 1918-19 in bushels for the crops named, as compared with 1918 in brackets: Wheat 25,239,811 (37,737,552), oats 5,274,984 (6,141,287), barley 2,028,035 (1,970,450), peas 142,835 (191,856). The hay crop for 1918-19 is placed at 1,113,861 tons, mostly oaten, as against 949,545 tons in 1917-18.

New Zealand.—The Government Statistician issued (August 6) a preliminary estimate of the acreage and yield of the principal field crops in New Zealand for the season 1918-19, as compared with 1917-18 as follows:

Crop.	1917-18.	1918-19.	1917-18.	1918-19.
	acres.	acres.	bush.	bush.
Wheat.....	280,978	209,404	6,807,536	6,658,613
Oats.....	156,202	172,953	4,942,759	6,925,543
Barley.....	18,860	18,903	568,702	708,873
Maize.....	8,151	9,817	367,761	414,583
			lb.	lb.
Rye grass.....	70,220	38,805	27,112,252	15,279,588
Cocksfoot.....	16,595	18,144	2,410,557	3,766,492
			bush.	bush.
Potatoes.....	22,854	19,276	3,755,584	3,898,645

In addition, the yield from chaff, hay or silage in 1918-19 is estimated for 1918-19 at 2,737 tons from wheat, at 469,464 tons from oats, at 974 tons from barley, and at 1,477 tons from maize.

Live Stock in New Zealand.—The approximate interim numbers of the principal descriptions of live stock in New Zealand on January 31, 1919, are reported as follows, the final figures for 1918 being placed within brackets: horses 363,902 (378,050), dairy cows 793,215 (820,451), other cattle 2,201,330 (2,076,250), total cattle 3,021,781 (2,869,465); sheep as at April 30, 1919, 25,828,554 (26,538,302), swine as at January 31, 1919, 235,222 (258,694).

United States.—The Crop Reporting Board of the United States Department of Agriculture issued (November 8) estimates of the production, quality and values of the field crops of 1919 as follows:

Crops.	Yield per acre.		Total Yield.			Quality. ¹	Price.	
	1919 pre-liminary.	10-year average.	1918.	1919.	Average 1913-17.		1919.	1918.
	bush.	bush.	000 bush.	000 bush.	000 bush.	p.c.	cents.	cents.
Corn.....	28.3	25.8	2,582,814	2,910,250	2,749,349	+7.7	140.3	133.4
Wheat.....	12.8	14.9	917,100	918,471	790,634	-9.4	206.0	213.2
Oats.....	28.9	32.2	1,538,359	1,219,521	1,331,287	-6.0	68.2	68.7
Barley.....	22.3	25.3	256,375	198,298	199,212	-2.8	94.9	117.1
Rye.....	12.9	15.9	90,183	84,552	50,001	-8.4	152.6	129.8
Buckwheat.....	21.3	19.1	17,182	20,120	14,691	+3.0	173.0	150.7
Potatoes.....	87.9	96.8	400,106	352,025	366,046	-2.5	127.2	152.8
Sweet potatoes.....	100.6	93.7	86,334	102,946	69,209	+0.8	146.0	143.9
Flaxseed.....	5.1	8.0	14,657	9,450	13,818	+0.2	333.8	382.3
Rice.....	40.6	35.5	40,424	44,261	30,788	-	-	-
	lb.	lb.	lb.	lb.	lb.			
Tobacco.....	742.0	820.1	1,340,019	1,316,553	1,090,641	-4.6	\$	-
	tons.	tons.	tons.	tons.	tons.			
Hay, all.....	1.49	1.32	90,443	103,544	96,912	+1.0	19.27	\$
Sugar beets.....	9.2	9.7	5,890	7,298	6,038	-	-	19.36

¹Percentage above or below average.

The average weight per measured bushel of wheat is 56.3 lb., against 58.8 lb. last year and 58.2 lb., the ten-year average; of oats it is 31.1 lb. against 33.2 lb. last year and 32.4 lb., the ten-year average; and of barley it is 45.2 lb. against 46.9 lb. last year and 46.5 lb., the nine-year average. The stocks of old corn on farms on November 1 is estimated at 72,263,000 bushels (2.8 p.c. of 1918 crop), compared with 114,678,000 bushels a year ago and 87,277,000 bushels, the average of the preceding five years.

INTERNATIONAL INSTITUTE OF AGRICULTURE.

A cablegram dated November 27, 1919, gives returns of the production of wheat, rye, barley, oats, corn, flax and potatoes in countries of the northern hemisphere for 1919, as compared with 1918 as follows:—

Crop.	No. of countries.	1918.	1919.	Average 1913-17.	Per cent of 1918.	Per cent of 1913-17.
		bush.	bush.	bush.		
Wheat.....	12	2,182,000	2,040,052	2,115,000	93.5	96.5
Rye.....	8	177,000	169,414	136,500	95.7	124.1
Barley.....	11	616,000	550,090	540,000	89.3	101.9
Oats.....	11	2,343,000	1,963,095	2,173,000	83.8	90.3
Corn.....	6	2,723,000	3,126,194	2,995,000	114.8	104.4
Flax.....	6	32,300	26,492	43,500	82.0	60.9
Potatoes.....	5	691,000	607,630	600,000	87.9	101.3

For wheat the twelve countries included in the table are Spain, France, Great Britain, Italy, Netherlands, Rumania, Switzerland, Canada, the United States, British India, Japan and Tunis. For potatoes the five countries are Scotland, Netherlands, Switzerland, Canada and the United States. It will be noticed that the total yields for all crops in the table are below those of 1918, except for corn, whilst wheat, oats and flax are also below the five-year average. Rye considerably and barley, corn and potatoes to a less extent are above the five-year average.

According to the October issue of the Bulletin of Agricultural and Commercial Statistics, the total yields of field crops in 1918-19 for the Republic of Chile are reported in bushels as follows: Wheat, 21,591,000; rye, 192,000; barley, 3,977,000; oats, 3,059,000; corn, 1,702,000; potatoes, 9,758,000. Wheat is 6.6 p.c. below the yield of 1917-18, but all the other crops show an increase ranging from 1.3 p.c. for potatoes to 20.4 p.c. for barley.

Statistics of Live Stock.—The total number of swine in Denmark is returned as 709,779 on July 15, 1919, as compared with 620,880 on July 15, 1918. The numbers of farm live stock in Norway on June 20, 1918, are as follows: Horses 209,998 (189,175), cattle 1,037,878 (1,119,306); sheep 1,184,813 (1,281,030); goats, 198,685 (230,055); swine 209,286 (221,217). The figures within brackets are for September 30, 1916.

PRODUCTION OF DAIRY FACTORIES, 1918.

The Dominion Bureau of Statistics issued, on November 10, 1919, a preliminary bulletin giving statistics of creameries, cheese factories and condensed milk factories for 1918, as collected by the Bureau in co-operation with the Provincial Governments. A detailed report is in preparation.

CREAMERY BUTTER.

The total production of creamery butter in 1918 was 93,266,876 lb., value \$41,845,164, as compared with 87,526,939 lb., value \$34,274,218, in 1917, and 82,564,130 lb., value \$26,966,355, in 1916. In order of production the figures for the provinces are as follows: Quebec, 36,761,057 lb., value \$16,364,950; Ontario, 29,397,485 lb., value \$13,136,470; Alberta, 9,021,765 lb., value \$4,011,859; Manitoba, 8,436,962 lb., value \$3,897,476; Saskatchewan, 5,009,014 lb., value

\$2,221,403; Nova Scotia, 1,756,905 lb., value \$808,755; British Columbia 1,581,924 lb., value \$807,861; New Brunswick, 660,010 lb., value, \$302,818; Prince Edward Island 641,754 lb., value \$293,572. For all Canada the average wholesale price of butter works out at about 45 cents per lb., as compared with 39 cents in 1917 and 33 cents in 1916. Every province showed an increase over 1917 in the production of creamery butter.

FACTORY CHEESE.

The total production of factory cheese in 1918 was 174,881,957 lb., value \$39,457,358, as compared with 194,904,336 lb., value \$41,180,623, in 1917, and 192,968,597 lb., value \$35,512,622, in 1916. Ontario and Quebec together produced 97 p.c. of the total factory-made cheese in Canada. In Ontario the quantity produced in 1918 was 107,886,724 lb., value \$24,356,019, as compared with 121,173,086 lb., value \$25,771,944, in 1917, and 126,015,870 lb., value \$23,312,935, in 1916. In Quebec the production in 1918 was 62,070,162 lb., value \$13,976,866, as compared with 67,835,017 lb., value \$14,172,273, in 1917 and 61,906,750 lb., value \$11,245,104, in 1916. All provinces, with the exception of British Columbia and Saskatchewan, show a decrease from 1917 in the production of cheese. British Columbia increased from 71,094 lb., value \$18,954, in 1917 to 249,647 lb., value \$60,901, in 1918. Saskatchewan, which made no factory cheese in 1917, produced 13,573 lb., value \$3,257, in 1918. The average wholesale price of factory cheese for the whole of Canada in 1918 works out at 22½ cents per lb., as compared with 21 cents per lb. in 1917, and 18 cents in 1916.

CONDENSED AND EVAPORATED MILK.

A large increase is noted in the output of condensed milk factories, the quantities and values being: condensed milk 41,195,604 lb., value \$5,740,898, as compared with 32,105,799 lb., value \$3,811,281, in 1917; evaporated milk, 38,612,367 lb., value \$4,048,055, as compared with 29,415,012 lb., value \$2,635,952, in 1917; and milk powder, 5,530,915 lb., value \$1,388,248, as compared with 3,979,514 lb., value \$817,287, in 1917.

OTHER DAIRY FACTORY PRODUCTS.

Other products of dairy factories in 1918 included 891,543 lb. of whey butter, value \$354,675, and 243,763 lb. of casein, value \$40,854, the total production being from Ontario factories.

NUMBER OF DAIRY FACTORIES.

The report shows that 3,371 dairy factories were in operation in 1918, as compared with 3,418 dairy in 1917 and 3,446 in 1916. The number of creameries was 989, as compared with 949 in 1917 and 993 in 1916; cheese factories 1,885 as compared with 1,900 in 1917 and 1,813 in 1916; combined butter and cheese factories 476, as compared with 549 in 1917 and 624 in 1916; and condensed milk factories 21, as compared with 20 in 1917 and 16 in 1916.

VALUE OF CANADIAN FIELD CROPS, 1917-19.

In the accompanying table is presented a preliminary estimate by the Dominion Bureau of Statistics of the total value of the field crops of Canada for the year 1919, as compared with the finally revised estimates of 1917 and 1918.

Preliminary Estimate of the Value of Canadian Field Crops for 1919, as compared with finally revised Estimates for 1916, 1917 and 1918.

Field Crops.	1916.		1917.		1918.		1919.	
	per bush.	Total.	per bush.	Total.	per bush.	Total.	per bush.	Total.
Wheat.....	1.31	344,096,406	1.94	453,038,600	2.02	381,677,700	1.90	373,086,000
Oats.....	0.51	210,957,500	0.69	277,065,300	0.78	331,357,400	0.78	320,686,000
Barley.....	0.82	35,024,000	1.08	59,654,400	1.00	77,378,670	1.15	67,086,000
Rye.....	1.11	3,196,000	1.62	6,267,200	1.49	12,728,600	1.30	14,304,000
Peas.....	2.22	4,919,000	3.54	10,724,100	2.54	7,873,100	2.00	7,446,000
Beans.....	5.40	2,228,000	7.45	9,493,400	5.41	19,283,900	4.90	7,242,000
Buckwheat..	1.07	6,375,000	1.46	10,443,400	1.58	18,018,100	1.50	16,967,000
Flax.....	2.04	16,889,900	2.65	15,737,000	1.14	40,726,500	3.75	25,376,000
Mixedgrains.	0.88	9,300,900	1.16	18,801,750	3.13	18,951,000	1.50	39,779,000
Corn for								
husking...	1.07	6,747,000	1.84	14,307,200	1.75	24,902,800	1.25	15,864,000
Potatoes....	0.81	50,982,300	1.01	80,804,400	0.98	102,235,300	0.95	124,707,200
Turnips, etc.	0.39	14,329,000	0.46	29,253,000	0.43	52,252,000	0.50	52,365,900
	per ton.		per ton.		per ton.		per ton.	
Hay and clover.....	11.60	168,547,900	10.33	141,376,700	16.25	241,277,300	20.68	341,869,200
Fodder corn.	4.92	9,396,000	5.14	13,834,900	6.15	29,439,100	6.81	32,140,500
Sugar beets..	6.20	440,000	6.75	793,800	10.25	1,845,000	10.85	2,191,700
Alfalfa.....	10.69	3,066,000	11.59	3,041,300	17.84	7,963,500	21.61	11,677,400
Totals..	-	886,494,900	-	1,144,636,450	-	1,367,909,970	-	1,452,787,900

The values represent the prices received by farmers, and for 1919 they are subject to revision after the completion of returns received from crop correspondents in December. According to the preliminary estimate, the total value of all field crops for 1919 is \$1,452,787,900, as compared with \$1,367,909,970 in 1918 and \$1,144,636,450 in 1917. The total of \$1,452,787,900 is made up of \$373,086,000 for wheat, as compared with \$381,677,700 in 1918, of \$320,686,000 for oats, as compared with \$331,357,400 in 1918, of \$353,546,600 for hay, clover and alfalfa, as compared with \$249,240,800 and of \$124,707,200 for potatoes, as compared with \$102,235,300. The aggregate value of other grain crops is \$194,064,000, as compared with \$219,862,670 in 1918, and of other root and fodder crops \$86,698,100, as compared with \$83,536,100 in 1918. The estimated values of grain crops are based upon the yields as published in this issue of the Monthly Bulletin, pages 274 to 278.

MEAT CONSUMPTION IN THE UNITED STATES.

The Monthly Crop Reporter for October, 1919, of the United States Department of Agriculture, contains a report on inquiries through crop correspondents as to the per-capita consumption of meat by districts in the United States. Previous reports on this subject have been confined to national statistics, whilst the present inquiries are divided into six districts and also into urban and rural. The request was for "pounds of dressed weight as would be sold by the butcher." The resulting averages for the United States, urban and rural combined, are approximately the same as those secured by national statistics and estimates of slaughter, reduced by the exported national surplus—lower for beef and higher for the other classes of meat. The interest of the investigation is chiefly in the geographic differences, and in the comparison between farm and town consumption; these can be observed in the accompanying table. Estimates were made for poultry as well as for "meat."

Estimated per capita Meat Consumption.

	Total.	Beef.	Veal.	Mutton.	Pork.	Poultry
	lb.	lb.	lb.	lb.	lb.	lb.
URBAN.						
North Atlantic.....	166.8	64.0	13.5	10.9	61.5	16.9
North Central, east.....	176.8	75.6	11.6	7.3	69.3	13.0
North Central, west.....	181.4	77.5	11.7	6.8	67.2	18.2
South Atlantic.....	158.4	55.1	5.7	5.4	76.3	16.0
South Central.....	178.4	66.1	4.4	8.7	79.7	19.5
Western.....	177.8	76.2	16.3	13.6	60.5	11.2
Total.....	171.6	68.3	11.8	9.3	66.3	15.8
RURAL.						
North Atlantic.....	174.7	47.1	10.7	7.6	85.5	23.9
North Central, east.....	196.2	48.3	7.2	5.8	109.9	25.1
North Central, west.....	212.7	57.4	6.3	3.8	113.1	32.0
South Atlantic.....	172.4	28.5	3.2	4.4	117.6	18.7
South Central.....	182.4	28.6	1.7	6.9	121.3	23.9
Western.....	188.2	64.7	9.3	15.8	81.5	16.9
Total.....	187.1	41.6	5.4	6.5	109.7	23.9
Total population—						
North Atlantic.....	168.8	59.6	12.8	10.0	67.7	18.7
North Central, east.....	186.0	62.7	9.5	6.6	88.5	18.7
North Central, west.....	202.3	64.1	8.1	4.8	97.8	27.4
South Atlantic.....	168.9	35.2	3.8	4.7	107.1	18.0
South Central.....	181.6	36.3	2.3	7.3	112.8	23.0
Western.....	183.1	70.3	12.7	14.7	71.3	14.1
Total.....	179.9	54.0	8.4	7.8	89.6	20.2

The States included in the different divisions are as follows:—

NORTH ATLANTIC: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania. **NORTH CENTRAL, EAST:** Ohio, Indiana, Illinois, Michigan, Wisconsin. **NORTH CENTRAL, WEST:** Minnesota, Iowa, Missouri,

¹ See also Census and Statistics Monthly, May, 1915, pp. 138-140.

North Dakota, South Dakota, Nebraska, Kansas. SOUTH ATLANTIC: Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida. SOUTH CENTRAL: Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Texas, Oklahoma, Arkansas. WESTERN: Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Idaho, Washington, Oregon, California.

Upon inspection of the tables, it will be observed that the total meat consumption per capita is nearly 10 p.c. more in the country than in the city; however, beef consumption is nearly two-thirds greater in the city than in the country, while pork consumption is nearly three-fourths heavier in the country than in the city. Considered geographically, beef consumption is heavier in the northern States than in the southern States; whereas pork consumption is heavier in the south than in the north. Little has heretofore been known concerning poultry consumption, even for the United States as a whole. It is now estimated that the rural population consumes about 24 lb. of dressed poultry per capita, and the urban population 16 lb.

RURAL PROPERTY IN ARGENTINA.

The Boletín Mensual de Estadística Agrícola of July, 1919, contains a brief article respecting sales and mortgages in Argentina during 1918, as compared with previous years. For the year 1918 the sales amounted to 15,902,699 acres, of the value of \$148,827,692¹. For the ten years 1907-1916 the annual average sales were 20,121,273 acres, of the value of \$121,038,835; so that the sales of 1918 indicate a remarkable increase in the market value of the land if only the arithmetical expression of these comparisons be considered. It would, however, be fundamentally wrong to regard these figures as proving increased values in respect of agricultural progress or higher yields, and so arrive at conclusions respecting rental values, the distribution of the land, the causes of increased values and any consequential fiscal policy.

There is in Argentina a market for lands as there is in other countries a market for movable property. In periods of speculation lands of all kinds are offered without regard to conditions of cultivation, and are bought and sold for the realization of quick profits. How should the increased values which have accrued between the first and last sales be divided, and on what basis can taxation be equitably imposed during a period of speculation, when within a short time properties pass from one to another, sometimes with high profits and sometimes with losses?

The following statement shows the enormous movement of territorial values which began with 1901, the figures representing total sales by quinquennial periods from 1901 to 1915 and for the triennial period 1916-18:

¹ For this article hectares have been converted into acres, and \$ Argentine paper money into \$ Canadian.

Period.	Areas.	Value.
	acres.	\$
1901-1905.....	112,903,211	273,996,850
1906-1910.....	118,323,353	520,707,005
1911-1915.....	93,647,242	646,984,698
1916-1918.....	45,547,853	391,232,252
Total.....	370,421,659	1,832,920,805

Excluding from these figures sales in the National Territories (except Pampa), where transactions have not in many cases the same commercial character, we find that out of 436,245,133 acres, 280,903,088 acres, or 64 p.c., have been sold. Does this mean a proportionate increase in the number of owners? The provincial registration of real estate permits ascertainment of the number of properties, their annual increase and their classification by areas; but it would be very difficult to determine therefrom the number of land owners with a view to estimate the social and economic results of changes in territorial values. Another defect rendering exact interpretation more difficult is the inclusion of the value of buildings in the sales of land.

The mortgages registered during the period 1901 to 1917 are as follows:

Period.	Areas.	Value.
	acres.	\$
1901-1905.....	68,554,550	141,500,505
1906-1910.....	84,980,951	320,752,918
1911-1915.....	101,077,844	568,456,094
1916.....	11,735,863	72,565,827
1917.....	13,910,626	72,828,189
Total.....	280,259,834	1,176,103,533

The following statement compares sales with mortgages during the period 1901-1917:

	Areas.	Values.
	acres.	\$
Sales.....	354,519,229	1,684,073,122
Mortgages.....	280,259,834	1,176,103,533
	74,259,395	507,969,589

This statement shows that in round figures mortgage values represent about 70 p.c. of the transactions in rural lands during a period well characterized by operations of this nature. It is necessary also to take into account the fact that the advantages offered by the Mortgage Bank as regards interest and amortization have been little used. The operations of the Bank in rural mortgages during the period have not exceeded \$135,915,392, or say 11.5 p.c. of the total registered mortgages.

Doubtless in these extraordinary changes of territorial values some have been reproductive and others not. The phenomena have intimate relations with the market value and location of the land, the amount of rent—high for the settler, and low for the owner—and the convenience of a rental system consistent with the conditions; but the statistics are at present too incomplete properly to represent the facts.

THE WEATHER DURING OCTOBER.

The Dominion Meteorological Office reports that the temperature was below the average throughout the Dominion, except in Ontario, where it was above from a line drawn from the extreme southeastern shores of Lake Superior, as far as or close to the eastern boundary of the province. The negative departures were very pronounced in the western provinces, and seemingly so over the northern portion of Canada generally. In British Columbia the precipitation was much below average on Vancouver Island and over the lower Mainland, and above the average over the greater part of the interior of the province. In Alberta and Saskatchewan it exceeded the average, except quite locally. Manitoba was above generally. Ontario was well above the average in nearly all localities. Quebec was above over the western portion, and much below elsewhere; while in the Maritime Provinces it was below, except in the very extreme southwest portion of Nova Scotia. In the Western provinces the precipitation was to a considerable extent snow. Snowfalls also occurred in British Columbia, in the northern parts of Ontario, and in Quebec and the Maritime provinces, but they were as a rule quite local.

PRICES OF AGRICULTURAL PRODUCE, 1919.

I. Weekly Range of Cash Prices per bushel of Canadian Grain at Winnipeg and Fort William, 1919.

(Furnished by the Board of Grain Commissioners for Canada, Fort William, Ont.)

Grain and Grade.	Oct. 4.		Oct. 11.		Oct. 18.		Oct. 25.		Nov. 1.	
	\$ c	\$ c	\$ c	\$ c	\$ c	\$ c	\$ c	\$ c	\$ c	\$ c
Wheat—										
No. 1 Nor.	2 15	—	2 15	—	2 15	—	2 15	—	2 15	—
No. 2 Nor.	2 12	—	2 12	—	2 12	—	2 12	—	2 12	—
No. 3 Nor.	2 08	—	2 08	—	2 08	—	2 08	—	2 08	—
No. 4.	2 02	—	2 02	—	2 02	—	2 02	—	2 02	—
No. 4 special.	2 02	—	2 02	—	2 02	—	2 02	—	2 02	—
No. 5 “	1 91	—	1 91	—	1 91	—	1 91	—	1 91	—
No. 6 “	1 81	—	1 81	—	1 81	—	1 81	—	1 81	—
Feed.	1 71	—	1 71	—	1 71	—	1 71	—	1 71	—
Oats—										
No. 2 C.W.	0 83	—0 84 $\frac{1}{2}$	0 80 $\frac{3}{4}$	—0 82 $\frac{1}{2}$	0 81	—0 83	0 80 $\frac{1}{2}$	—0 84	0 82 $\frac{1}{2}$	—0 85
No. 3 C.W.	0 80 $\frac{1}{2}$	—0 83 $\frac{1}{2}$	0 77 $\frac{1}{2}$	—0 79	0 78 $\frac{1}{2}$	—0 80	0 77 $\frac{1}{2}$	—0 81	0 79 $\frac{1}{2}$	—0 82 $\frac{1}{2}$
No. 1 Feed ex.	0 81	—0 83 $\frac{1}{2}$	0 78 $\frac{1}{2}$	—0 81	0 79 $\frac{1}{2}$	—0 80	0 77 $\frac{1}{2}$	—0 81	0 79 $\frac{1}{2}$	—0 83 $\frac{1}{2}$
No. 1 Feed.	0 79 $\frac{1}{2}$	—0 82 $\frac{1}{2}$	0 76 $\frac{1}{2}$	—0 78 $\frac{1}{2}$	0 77 $\frac{1}{2}$	—0 78 $\frac{1}{2}$	0 75 $\frac{1}{2}$	—0 79	0 77 $\frac{1}{2}$	—0 81
No. 2 Feed.	0 76 $\frac{1}{2}$	—0 81 $\frac{1}{2}$	0 74	—0 76	0 74 $\frac{1}{2}$	—0 75 $\frac{1}{2}$	0 73 $\frac{1}{2}$	—0 76	0 74 $\frac{1}{2}$	—0 78 $\frac{3}{4}$
Barley—										
No. 3 C.W.	1 24 $\frac{1}{2}$	—1 30 $\frac{1}{2}$	1 30 $\frac{1}{2}$	—1 34 $\frac{1}{2}$	1 33 $\frac{1}{2}$	—1 39 $\frac{1}{2}$	1 35 $\frac{1}{2}$	—1 43 $\frac{1}{2}$	1 40	—1 47 $\frac{1}{2}$
No. 4 C.W.	1 23	—1 27 $\frac{1}{2}$	1 25 $\frac{1}{2}$	—1 28 $\frac{1}{2}$	1 25 $\frac{1}{2}$	—1 34 $\frac{1}{2}$	1 30	—1 37 $\frac{1}{2}$	1 34 $\frac{1}{2}$	—1 42 $\frac{1}{2}$
Rejected.	1 11 $\frac{1}{2}$	—1 16 $\frac{1}{2}$	1 13 $\frac{1}{2}$	—1 17 $\frac{1}{2}$	1 13 $\frac{1}{2}$	—1 20 $\frac{1}{2}$	1 20	—1 24 $\frac{1}{2}$	1 20 $\frac{1}{2}$	—1 29 $\frac{1}{2}$
Feed.	1 11 $\frac{1}{2}$	—1 16 $\frac{1}{2}$	1 13 $\frac{1}{2}$	—1 17 $\frac{1}{2}$	1 13 $\frac{1}{2}$	—1 20 $\frac{1}{2}$	1 20	—1 24 $\frac{1}{2}$	1 20 $\frac{1}{2}$	—1 29 $\frac{1}{2}$
Flax—										
No. 1 N.W.C.	3 73	—4 35	4 08	—4 34	4 13	—4 34	4 21	—4 36	4 23	—4 32
No. 2 C.W.	3 65	—4 10	3 99	—4 27	4 06	—4 27	4 17	—4 31	4 15	—4 28
No. 3 C.W.	3 43	—3 85	3 78	—4 06	3 85	—4 06	3 91	—4 05	3 88	—4 02

II. Monthly Range of Prices per bushel of Grain at Selected Markets in the United States, 1919.

(From the Monthly Crop Report of the United States Department of Agriculture.)

Grade and Market.	July.		August.		September.		October.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat, Red Winter, No. 2—								
St. Louis.....	2 21	—2 42	2 21	—2 24½	2 21	—2 25	2 21	—2 29
Chicago.....	2 23	—2 29	2 23	—2 27½	2 23	—2 27	2 23	—2 27½
New York (f.o.b. afloat).....	2 38	—	2 38	—	2 38	—	2 38	—
Corn, No. 2, mixed—								
St. Louis.....	1 81½	—2 04	1 88	—2 00	2 21	—2 47	1 39	—1 49
Corn No. 2—								
Chicago.....	1 79½	—2 10	1 83	—2 10	1 33	—1 83	1 37	—1 53
Oats, No. 2—								
St. Louis.....	0 70½	—0 83	0 67½	—0 76½	0 64	—0 71	0 67	—0 72
Chicago.....	—	—	0 70½	—0 80½	0 65½	—0 74½	0 70½	—0 74½
Rye No. 2—								
Chicago.....	1 62	—1 64½	1 44½	—1 66½	1 43	—	1 32½	—1 42½

III. Prices of Imported Grain and Flour at British Markets, 1919.

Mark Lane.	Oct. 6-27.		Liverpool.	7-28.	
	\$ c.	\$ c.		\$ c.	\$ c.
Wheat—			Wheat—		
Canadian No. 1.....	2 29½	—	Nor. Man. No. 1.....	1 92½	—
“ No. 2.....	2 26½	—	Red Winter No. 1.....	1 89½	—
American Spring.....	2 26½	—	Hard Winter No. 1.....	1 92½	—
“ Hard Winter.....	2 29½	—	Australian.....	1 94½	—
“ Red Winter.....	2 25½	—			
Australian.....	2 32½	—			
Argentine.....	2 26½	—			
Oats—					
Canadian.....	1 55½	—1 60½			
American.....	1 52½	—1 55½			
Chilian.....	1 57½	—1 62½			
Argentine.....	1 57½	—1 60½			
Flour—					
Canadian Spring.....	11 25	—			
American Spring.....	11 25	—			
“ Winter.....	11 25	—			
Australian.....	11 25	—			

IV. Average Prices of British-grown Grain, 1919.

(From the “London Gazette” as published pursuant to s. 8 of the Corn Returns Act, 1882.)

Week ended	Wheat.		Barley.		Oats.	
	per quarter.	per bushel.	per quarter.	per bushel.	per quarter.	per bushel.
	s. d.	\$ c.	s. d.	\$ c.	s. d.	\$ c.
October 4.....	73 4	2-231	94 4	2-754	59 6	1-577
“ 11.....	73 1	2-223	95 5	2-786	58 10	1-559
“ 18.....	73 0	2-220	93 10	2-740	57 9	1-530
“ 25.....	73 0	2-220	95 1	2-776	57 5	1-521
Average.....	73 1	2-223	94 8	2-764	58 5	1-547

PUBLICATIONS

OF THE

Department of Trade and Commerce

- ANNUAL REPORT OF THE DEPUTY MINISTER.
- MAIL SUBSIDIES AND STEAMSHIP SUBVENTIONS (Annual).
- BOARD OF GRAIN COMMISSIONERS FOR CANADA (Annual).
- RULES AND REGULATIONS OF THE BOARD OF GRAIN COMMISSIONERS (Annual).
- LIST OF LICENSED ELEVATORS, ETC.
- GRAIN INSPECTION IN CANADA, (1914).
- WEEKLY BULLETIN, containing Reports of Trade Commissioners and other Commercial Information.
- PATENT OFFICE RECORD (WEEKLY).
- RULES AND FORMS OF THE CANADIAN PATENT OFFICE.
- CANADA AND THE BRITISH WEST INDIES (1915).
- CANADA THE COUNTRY OF THE TWENTIETH CENTURY (1915) 75c., \$1.00.
- HANDBOOK FOR EXPORT TO SOUTH AMERICA (1915).
- TRADE WITH CHINA AND JAPAN (1914).
- REVIEW OF COMMERCIAL INTELLIGENCE SERVICE (1916).
- RUSSIAN TRADE (1916).
- DIRECTORY OF RUSSIAN IMPORTERS (1915).
- THE GERMAN WAR AND ITS RELATION TO CANADIAN TRADE (1914).
- TOY MAKING IN CANADA (1916).
- THE TIMBER IMPORT TRADE OF AUSTRALIA (1917).
- FOOD INSPECTION BULLETINS.
- TRIAL SHIPMENT OF WHEAT, from Vancouver via the Panama Canal to the United Kingdom.
- GAS AND ELECTRICITY (Annual).
- WEIGHTS AND MEASURES (Annual).

For List of Publications of the Dominion Bureau of Statistics, see page iv of cover.

PUBLICATIONS

OF THE

DOMINION BUREAU OF STATISTICS.

THE CANADA YEAR BOOK, 1918, with Map of Canada and Newfoundland, a Statistical Summary of the Progress of Canada, Frontispiece and numerous other illustrations. (Jubilee Volume). pp. 1-xvii, 1-686.

Contents: I The Story of Confederation, by Sir JOSEPH POPE, K.C.M.G., C.V.O. I.S.O., Under Secretary of State for External Affairs, Ottawa, with 2 illustrations; II Chronological History of Canada, 1497-1918; III Fifty years of Canadian Progress, 1867 to 1917, by ERNEST H. GODFREY, F.S.S., Editor, Dominion Bureau of Statistics, Ottawa; IV Physical Characteristics of Canada, including Geographical Features; Economic Geology in Canada, 1918, by WYATT MALCOLM, Department of Mines, Ottawa; V Area and Population; VI Education; VII Climate and Meteorology, including The Climate of Canada since Confederation, by Sir FREDERIC STUPART, Director, Dominion Meteorological Service, Toronto; VIII Production; IX Trade and Commerce; X Transportation and Communications; XI Labour; XII Finance; XIII Administration; XIV Legislation in 1917 and 1918 and Principal Events of the Year 1918; XV Extracts from the Canada Gazette, 1917 and 1918.

THE CANADA YEAR BOOK. Second Series 1905-1917. [1910, 1913 and 1916-17, out of print.]

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. Nos. 1 to XIX.

REPORT OF THE FIFTH CENSUS OF CANADA, 1911.

Vol. I, 1912. Areas and Population by Provinces, Districts and Subdistricts with introduction, Tables I to XV, pp. i-viii, 1-628. [Out of print.]

Vol. II, 1913. Religions, Origins, Birthplace, Citizenship, Literacy and Infirmitities by Provinces, Districts and Subdistricts, with Introduction. Tables I-XLVI, pp. i-iv, 1-634.

Vol. III, 1913. Manufactures for 1910 as enumerated in June 1911, with Introduction. Table I-XX, pp. i-xvi, 1-432. [Out of print.]

Vol. IV, 1914. Agriculture, with Introduction. Tables 1-90; I-XXXV, pp. i-xcv, 1-428. Diagrams, 5 pp. [Out of print.]

Vol. V, 1915. Forest, Fishery, Fur and Mineral Production, with Introduction. Tables 1-51; I-XXVI, pp. i-l, 1-171.

Vol. VI, 1916. Occupations of the People, with Introduction. Tables 1-25; I-VI, i-xxxi, 1-469. [Out of print.]

REPORT OF THE CENSUS OF POPULATION AND AGRICULTURE OF THE PRAIRIE PROVINCES, 1916. January 12, 1918. Tables 1-54; I-XXVI, pp. i-lxiv, 1-356.

SPECIAL REPORT ON THE FOREIGN-BORN POPULATION. Abstracted from the Records of the Fifth Census of Canada, June 1911. 23 tables. 62 pp. 1915.

REPORT OF THE POSTAL CENSUS OF MANUFACTURES, 1916. pp. i-xi, 1-263, 1917.

REPORT ON THE CENSUS OF INDUSTRY, 1917. Part I. (AGRICULTURAL STATISTICS); Part II. (DAIRY FACTORIES); Part III. (FISHERY STATISTICS); Part IV. Section 4 (PULP AND PAPER). Other Parts in preparation.

DIRECTORY OF THE CHEMICAL INDUSTRIES IN CANADA, as of date January 1, 1919, 68 pp. 1919.

EXTERNAL TRADE: ANNUAL REPORT OF THE TRADE OF CANADA; MONTHLY REPORT OF THE TRADE OF CANADA.

INTERNAL TRADE: ANNUAL REPORT ON THE GRAIN TRADE OF CANADA; ANNUAL REPORT ON THE COAL TRADE OF CANADA; MONTHLY PRODUCE BULLETINS, showing stocks in warehouse, in transit, etc.

CRIMINAL STATISTICS. Annual Report for Year ended September 30, 1917. pp. i-li, 1-270.

CENSUS AND STATISTICS MONTHLY, Vols. 1-10, 1908-1916; Vol. 10, Nos. 101-103, 1917. **MONTHLY BULLETIN OF AGRICULTURAL STATISTICS**, Vols. 10 to 12, Nos. 104-135, 1917-19.

REPORT OF CONFERENCE ON VITAL STATISTICS, June 19-20, 1918, pp. 1-48, 1918.

THE BEET SUGAR INDUSTRY, Bulletin IX, with 3 illustrations, pp. 1-75, 1909.

For list of Publications of the Department of Trade and Commerce, see page iii of cover.

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CANADA
DOMINION BUREAU OF STATISTICS
Quarterly
(MONTHLY) BULLETIN
OF
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December, 1919.

Published by Authority of the Right Hon. Sir George E. Foster,
G.C.M.G., M.P., Minister of Trade and Commerce.



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DOMINION STATISTICIAN: R. H. COATS, B.A., F.S.S. EDITOR: ERNEST H. GODFREY, F.S.S.
DOMINION BUREAU OF STATISTICS, OTTAWA, CANADA.

PRODUCTION OF GRAIN AND POTATOES IN NORTHERN HEMISPHERE, 1919.

The November issue of the Monthly Bulletin of Agricultural and Commercial Statistics, published by the International Institute of Agriculture, gives official estimates of the areas and yields of the principal grain crops and of potatoes in the northern hemisphere for the year 1919, as compared with 1918 and with the annual average for the five years 1913-1917. For those countries whose records admit of the comparisons mentioned, the data are presented in the accompanying table wherein the absolute figures are supplemented by percentages both as compared with the previous year and with the quinquennial period.

Wheat.—Taking first the principal cereal, we find that the area under wheat for the thirteen countries in the table was, in 1919, 154,744,000 acres, as compared with 153,567,000 acres in 1918 and 140,545,000 acres the annual average in the five year period 1913-17. As compared with 1918, the percentage increase is only 0.8, but as compared with the five-year average the increase is 10.1 p.c. When however we turn to production we find that the total, viz., 2,043,162,000 bushels for 1919, is less by 6.4 p.c. than the total of 2,182,657,000 bushels in 1918 and less by 2.1 p.c. than the five year average of 2,087,563,000 bushels. Examining the percentage column for the purpose of comparing 1919 with 1918 we find that the total production was considerably less in all the European countries, except Spain, Holland and Rumania. In the last-named country, the large increase over 1918 represents a partial recovery from the effects of the war. Holland shows an increase of $12\frac{1}{2}$ p.c., but the total production is relatively small. On the American continent, the United States has a very satisfactory increase of winter wheat to the extent of 28 p.c., but the spring wheat is less by over 43 p.c. Taking the whole of the United States wheat crop the yield is slightly (0.1 p.c.) above that of 1918 and 16 p.c. above the five year average. On the other hand, the Canadian crop (provisional estimate) is 3.9 p.c. more than in 1918, but 23.5 p.c. below the average. The other large wheat-producing country, India, had only the small total production of 280,075,000 bushels, as compared with 370,421,000 bushels in 1918 and 358,101,000 bushels, the five year average, the percentages being 24.4 p.c. below 1918 and 22.8 p.c. below the average. This result was due not to decrease of yield per acre but to decrease of the area seeded. This in 1919 was about 33 p.c. less than in 1918 and 23.2 p.c. below average. From the countries in the table are missing Belgium, Germany, Austria, Hungary, and Russia,

as well as others of less economic importance. The production for the countries included in the table represents only about 55 p.c. of the world's wheat production. Besides the four countries just mentioned as missing, the table, being limited to the northern hemisphere does not include Australia, Argentina and other countries whose harvest for the season 1919-20 it is as yet too soon to estimate. The yields of wheat in 1919 for Belgium, Bohemia, Guatemala, Corea and Algeria aggregate about 55 million bushels; but in the absence of corresponding figures for previous seasons comparisons cannot be made, and these countries are omitted from the table. The average yield per acre for the 14 countries in the table is 13.20 bushels, which is less than that of 1918 by one bushel and less than the average for the five years by over $1\frac{1}{2}$ bushel.

Rye.—For the eight countries named, rye was sown to 12,077,000 acres in 1919, as compared with 11,269,000 acres in 1918, and 8,524,000 the five-year average. The increase for the year is 7.2 p.c. and compared with the average it is 41.7 p.c. The increase is largely caused by a noteworthy expansion during recent years in the United States and Canada. The total yield of rye is 174,181,000 bushels, as compared with 178,762,000 bushels in 1918, and with 138,200,000 the five-year average; the proportions are a decrease of 2.6 p.c. as compared with 1918 and an increase of 26 p.c. as compared with the average. The average yield per acre of rye in eight countries is about $1\frac{1}{2}$ bushel below that of 1918 and $1\frac{3}{4}$ bushel below average. The yield for 1919 in Belgium and Bohemia amounting to 35,424,000 bushels has not been included, owing to lack of comparative data. Moreover, the table does not include the large rye-producing countries of Germany, Austria, Hungary, and Russia. In 1914 the production of these countries was: Germany 481,174,000 bushels; Austria, 106,473,000 bushels; Hungary 52,256,000 bushels, and Russia 911,010,000 bushels.

Barley.—The crop for 12 countries shows a seeded area of 23,709,000 acres, as compared with 25,282,000 acres in 1918, and 22,355,000 acres for the five-year average; the area in 1919 is less than in 1918 by 6.2 p.c., but over the average by about the same proportion, viz., 6.1 p.c. The total production was only 542,118,000 bushels, as compared with 616,007,000 bushels in 1918 and 533,743,000 bushels the average, or 32 p.c. less than in 1918 and 1.6 p.c. more than the five-year average. The data for Belgium, Bohemia, Corea, and Algeria furnish a total for 1919 of about 78,064,000 bushels, but this quantity is not included in the table for want of comparative data. The average yields per acre for the 12 countries in the table are 22.87 bushels, as against 24.37 bushels in 1918 and 22.88 bushels the five-year average.

Oats.—Records are included for 12 countries, the area being 71,791,000 acres in 1919, as against 74,170,000 acres in 1918 and 67,167,000 acres the annual average. The total area for 1919 is 3.2 p.c. below that of 1918, but 6.9 p.c. above the average. In total yield, oats gave 1,974,848,000 bushels, as against 2,342,122,000

bushels in 1918 and 2,161,282,000 bushels for the average, a decrease of 15.7 p.c. and 8.6 p.c. respectively. The yield per acre for the 12 countries for 1919 is $27\frac{1}{2}$ bushels, as against $31\frac{1}{2}$ in 1918 and $32\frac{1}{4}$ bushels, the five-year average. Not included in the table for reasons above stated are Belgium, Bohemia, and Algeria; their oat crops for 1919 amount to about 64,842,000 bushels.

Corn.—The bulk of this crop is grown in the United States, and the area in six countries is 113,111,000 acres in 1919, as compared with 116,724,000 acres in 1918 and 117,700,000 acres, the five-year average. The proportions are 3.1 p.c. below 1918 and 3.9 p.c. below average. The yield in 1919 totals 3,127,629,000 bushels, as compared with 2,723,157,000 bushels in 1918 and 2,994,506,000 bushels the average. The total for 1919 is 14.9 p.c. above that of 1918 and 4.4 p.c. above the average. This result is due to the large corn crop in 1919 of the United States, which was 12.7 p.c. above 1918 and 5.8 p.c. above average.

Potatoes.—The data for 1919 are as yet incomplete, but the provisional figures recorded for the five countries show a decrease in area as compared with last year, but the acreage is 10.3 p.c. above the average. The yield also is below that of last year by 7.6 p.c., but is 5.6 p.c. above average.

Except only as regards corn, the cereal harvest of the northern hemisphere was relatively poor, both as compared with last year and with the average of the five years 1913–1917.

Dominion Bureau of Statistics,
Ottawa, December 31, 1919.

ERNEST H. GODFREY,
Editor.

Fixation of Prices for Bran, Shorts and Flour.—The Canadian Wheat Board by Regulation 57, dated November 15, 1919, have fixed the following as the maximum wholesale prices for bran and shorts until further notice. Per ton net weight in 100 lb. jute sacks: Bran, \$45; shorts, \$52. These prices are basis f.o.b. cars Montreal. By Regulation 58 of the same date the maximum wholesale price of flour from November 15, 1919, until further notice is fixed as follows: (a) Government standard spring wheat flour, \$10.90 per barrel basis 98 lb. net jute bags; (b) Government standard winter wheat flour, \$10.10 per barrel basis 98 lb. net jute bags. These prices are basis f.o.b. cars Montreal.

I.—Area and Production of Cereals and Potatoes in Countries of the Northern Hemisphere—1913-17.

Countries.	1918.	1919.	Five Years Average 1913 to 1917.	Per cent of 1918.	Per cent of Average.
	000 acres.	000 acres.	000 acres.	p. c.	p. c.
Wheat—					
Spain.....	10,229	10,301	9,970	100.7	103.3
France.....	10,850	11,316	13,251	104.3	85.4
England and Wales.....	2,557	2,221	1,902	86.9	116.7
Scotland.....	79	80	63	100.7	126.0
Italy.....	10,788	10,571	11,625	98.0	90.9
Netherlands.....	148	162	141	109.2	114.7
Rumania.....	3,993	2,965	4,272	74.2	69.4
Switzerland.....	203	130	117	64.3	111.6
Canada.....	17,354	19,141	13,309	110.2	143.8
United States (Winter sown).....	36,704	48,934	34,197	133.3	143.1
United States (Spring sown).....	22,406	22,593	18,124	100.8	124.7
British India.....	35,487	23,764	30,957	67.0	76.8
Japan.....	1,390	1,376	1,256	99.0	109.5
Tunis.....	1,379	1,190	1,361	86.3	87.4
Totals and averages.....	153,567	154,744	140,545	100.8	110.1
Rye—					
Spain.....	1,818	1,907	1,855	104.9	102.8
France.....	1,735	1,817	2,322	104.7	78.3
Italy.....	270	272	293	100.7	92.7
Netherlands.....	472	481	527	101.8	91.3
Roumania (2).....	168	219	177	130.3	123.6
Switzerland.....	72	51	56	70.7	90.4
Canada.....	555	754	143	135.8	527.3
United States.....	6,185	6,576	3,151	106.3	208.7
Totals and averages.....	11,275	12,077	8,524	107.2	141.7
Barley—					
Spain.....	4,210	4,089	3,791	97.1	107.9
France.....	1,356	1,340	1,674	98.8	80.1
England and Wales.....	1,501	1,510	1,417	100.6	106.5
Scotland.....	153	174	174	113.8	99.9
Italy.....	478	479	581	100.3	82.6
Netherlands.....	60	59	61	98.0	95.2
Rumania.....	610	587	766	96.2	76.6
Switzerland.....	22	18	16	82.3	115.2
Canada.....	3,154	2,646	1,804	83.9	146.6
United States.....	9,679	8,899	7,781	91.9	114.4
Japan.....	2,862	2,931	3,153	102.4	93.0
Tunis.....	1,197	977	1,137	81.7	86.0
Totals and averages.....	25,282	23,709	22,355	93.8	106.1
Oats—					
Spain.....	1,507	1,641	1,371	108.9	119.7
France.....	6,631	6,815	8,183	102.8	83.3
England and Wales.....	2,780	2,564	2,067	92.2	124.0
Scotland.....	1,244	1,110	974	89.2	113.9
Italy.....	1,214	1,129	1,176	93.0	96.0
Netherlands.....	392	368	356	93.9	103.5
Rumania.....	816	598	826	73.2	72.3
Switzerland.....	86	57	78	65.9	73.3
Canada.....	14,790	14,997	11,272	101.3	133.0
United States.....	44,401	42,170	40,584	95.0	103.9
Japan.....	158	215	140	135.8	153.6
Tunis.....	151	127	140	84.2	90.7
Totals and averages.....	74,170	71,791	67,167	96.8	106.9

sphere, 1919, as compared with 1918 and with the Annual Averages of the five years

1918.	1919.	Five years Average, 1913 to 1917.	Per cent of 1918.	Per cent of Average.	1918.	1919.	Five years Average, 1913 to 1917.
000 bush.	000 bush.	000 bush.	p. c.	p. c.	bush. per acre.	bush. per acre.	bush. per acre.
135,710	136,443	132,559	100.5	102.9	13.23	13.23	13.23
225,738	177,980	224,633	78.8	79.2	20.82	15.76	16.95
84,240	63,832	35,690	75.8	114.6	33.01	28.70	29.29
3,216	2,960	2,496	92.0	118.6	40.74	37.17	39.55
183,296	169,565	173,809	92.5	97.6	16.95	16.06	15.02
5,345	6,015	5,212	112.5	115.4	35.98	37.17	36.88
18,448	50,755	71,018	275.1	71.5	4.61	17.69	16.65
7,095	3,524	3,832	49.7	92.0	34.94	27.06	32.86
189,075	196,361	256,613	103.9	76.5	11.00	10.25	19.25
558,458	715,313	555,221	128.1	128.8	15.17	14.57	16.21
358,657	203,173	235,448	56.6	86.3	16.06	8.92	12.93
370,421	280,075	358,101	75.6	78.2	10.41	11.75	11.60
31,016	29,817	26,640	96.1	111.9	22.30	21.71	21.26
11,942	7,349	6,291	61.5	116.8	8.62	6.24	4.61
2,182,657	2,043,162	2,087,563	93.6	97.9	14.21	13.20	14.85
30,445	27,038	26,191	88.8	103.2	16.73	14.18	14.18
28,935	27,833	36,022	96.2	77.3	16.73	15.29	15.45
5,232	4,571	5,003	87.4	91.4	19.44	16.89	17.05
12,827	14,057	14,016	109.6	100.3	27.08	29.16	26.61
787	3,553	2,599	451.3	136.7	4.62	16.25	14.66
1,850	1,575	1,661	85.1	94.8	25.81	31.07	29.63
8,504	11,003	2,707	129.3	406.5	15.25	14.50	19.00
90,182	84,551	50,001	93.8	169.1	14.66	12.90	15.93
178,762	174,181	138,200	97.4	126.0	15.86	14.42	16.21
90,497	89,010	77,724	98.4	114.5	21.56	21.75	20.45
27,475	23,626	39,269	86.0	60.2	20.26	17.66	23.42
50,667	45,633	46,242	90.1	98.7	33.83	30.30	32.71
5,642	6,000	6,373	106.4	94.1	36.99	34.57	36.62
9,687	8,327	9,260	86.0	89.9	20.26	17.29	15.98
2,582	2,688	2,792	104.1	96.3	43.12	45.91	45.35
2,219	11,987	16,086	540.2	74.5	3.72	20.45	21.00
666	625	575	93.8	108.6	29.93	34.20	36.25
77,287	58,336	42,273	75.5	138.0	24.50	22.00	23.50
256,370	198,294	199,208	77.3	99.5	26.60	22.30	25.65
79,825	91,482	86,758	114.6	105.4	27.88	31.32	27.50
13,090	6,110	7,183	45.6	83.1	10.97	6.13	6.32
616,007	542,118	533,743	68.0	101.6	24.37	22.87	23.88
28,681	27,466	29,879	95.8	91.9	19.16	16.79	21.78
166,123	158,404	256,576	95.4	61.7	24.93	23.35	31.23
131,581	104,456	92,953	79.4	112.4	47.23	40.67	44.87
59,253	44,506	44,011	75.1	101.1	47.76	40.15	45.13
42,685	32,680	30,439	76.6	107.4	35.16	28.86	25.98
19,569	19,306	20,005	119.4	96.5	49.86	52.48	56.16
4,717	13,919	22,049	295.1	63.1	5.78	23.35	26.77
4,883	2,607	4,575	53.4	57.0	56.42	45.66	58.78
426,313	411,136	399,185	96.4	103.0	28.75	27.50	35.50
1,447,871	1,147,787	1,252,979	79.3	91.6	32.54	27.29	30.96
6,426	9,339	5,709	145.3	163.6	40.67	43.56	40.94
4,020	3,242	2,922	80.6	111.0	26.77	25.45	21.00
2,342,122	1,974,848	2,161,282	84.3	91.4	31.58	27.51	32.17

I.—Area and Production of Cereals and Potatoes in Countries of the Northern Hemisphere, 1913-17.

Countries.	1918.	1919.	Five years Average 1913 to 1917.	Per cent of 1918.	Per cent of Average.
	000 acres.	000 acres.	000 acres.	p. c.	p. c.
Corn—					
Spain.....	1,169	1,196	1,145	102.3	104.4
Italy.....	3,558	3,805	3,890	100.7	92.1
Rumania.....	4,245	4,861	4,925	114.5	98.7
Switzerland.....	7	6	4	87.7	181.9
Canada.....	250	265	239	106.0	110.8
United States.....	107,495	102,978	107,497	95.8	95.8
Totals and averages.....	116,724	113,111	117,700	96.9	96.1
Potatoes—					
Scotland.....	169	155	145	91.2	106.8
Netherlands.....	440	425	427	96.8	99.6
Switzerland.....	148	136	125	91.8	108.4
Canada.....	735	821	513	111.7	160.0
United States.....	4,210	4,003	3,812	95.1	105.0
Totals and averages.....	5,702	5,540	5,022	97.2	110.3

DOMINION EXPERIMENTAL FARMS AND STATIONS.

Central Farm, Ottawa.—The weather during November has been cool, with much less sunshine than usual. The highest temperature recorded during the month is 58, the lowest 4.4 and the mean 31.30; while a year ago the maximum was 52, the minimum 11.2 and the mean temperature 34.97. The precipitation totals 2.71 inches, of which 2.19 inches represents rain (recorded on seventeen days) and the rest 5.25 inches of snow; while, during the corresponding period of 1918, the total was 2.52 inches, consisting of 2.17 inches of rain, and the balance being made up from 3.50 inches of snow. The bright sunshine averages 1.65 hour a day, compared with 2.68 hours for this time last year.

There started on November 1st, 1919, in the Poultry Division at the Central Farm, an Egg-laying Contest, open to poultry-keepers in all parts of the Dominion, and which is to run for one year. In all, fifty pens, each with accommodation for ten birds from each competitor, have been provided.

Charlottetown, P.E.I.—J. A. Clark, Superintendent, reports: "The first week in November was dull, with scarcely any sunshine and with slight drizzles on three different days. The second week was quite bright, with very little frost; so that the balance of the turnip crop was harvested in good shape. On the night of the 16th, the thermometer dropped to 20, but this did not prevent the plough from ridging. The third week was showery, with two very heavy rains, one on the 19th and one on the 23rd. The closing week of the month has been colder. Quite a snow storm occurred on the 26th and 27th, the thermometer dropping to 10, but, at the end of the

sphere, 1919, as compared with 1918 and with the Annual Averages of the five years

1918.	1919.	Five years Average, 1913 to 1917.	Per cent of 1918.	Per cent of Average.	1918.	1919.	Five years Average, 1913 to 1917.
000 bush.	000 bush.	000 bush.	p. c.	p. c.	bush. per acre.	bush. per acre.	bush. per acre.
24,142	24,553	28,515	101.7	86.1	20.71	20.56	24.85
76,591	78,736	100,247	102.8	78.5	21.51	21.99	25.81
25,069	101,386	104,435	404.4	97.1	5.90	20.87	21.19
358	287	161	80.0	177.6	48.27	44.13	45.25
14,205	12,691	11,822	89.3	107.4	56.75	48.00	49.50
2,582,792	2,909,976	2,749,326	112.7	105.8	24.06	28.20	25.65
2,723,157	3,127,629	2,994,506	114.9	104.4	23.33	27.82	25.44
42,971	32,853	34,805	76.5	94.4	253.53	212.64	240.44
109,656	96,226	98,624	87.8	97.6	249.36	226.17	230.93
34,355	27,925	26,676	81.3	104.7	232.56	205.80	213.08
104,346	131,952	73,552	126.4	179.4	142.00	160.75	143.50
400,112	350,076	366,052	87.5	95.6	95.02	87.43	96.06
691,440	639,032	599,709	92.4	106.6	121.26	115.35	119.42

month, ploughing is still possible. On account of the moderate weather which has prevailed, fall work in this province has been practically completed, and live stock has gone into winter quarters in first-class condition."

Kentville, N.S.—W. S. Blair, Superintendent, reports:—"The temperatures recorded during November range somewhat higher than normal, the mean being 37.40 as compared with 36.85 as the average for November for the previous five years. There has been no very cold weather during the month and ploughing has not been interrupted by frost. The precipitation totals much more than usual, amounting to 7.27 inches, as compared with an average of 3.25 inches for the same month for the five previous years. The heaviest rainfall was on the 6th, when 2.61 inches fell. There were light snowfalls on the 15th, 20th and 27th, which snow quickly melted. The rain on the 6th hindered ploughing on wet areas. The sunshine aggregates only 57.25 hours, as compared with 88.3 hours as the average for the corresponding period from 1914 to 1918. On the whole, it has been a good month for finishing up fall work and more than the usual amount of fall ploughing has been done."

Nappan, N.S.—W. W. Baird, Superintendent, reports:—"The weather during the first week in November was quite unsettled, very heavy rain, accompanied by strong gales, occurring on the 5th and 6th, when 1.97 inch of rain fell. The remainder of the month has been fairly fine and mild, with the temperature falling towards its close. The precipitation totals 5.69 inches. At the Experimental Farm, the major part of the turnip crop was harvested during the early part of the month, but this operation was made difficult by the

heavy rains on the 5th and 6th. Twenty-six head of steers have been purchased locally and put in for feeding."

Fredericton, N.B.—W. W. Hubbard, Superintendent, reports:—"While the mean temperature for November is slightly above the average, there has been more severe frost than usual, which, however, has been offset by relatively mild periods. Winter practically set in on the 3rd, with hard freezing, which was followed by snow and rain on the 5th. The snow disappeared and the frost all came out of the ground, as a result of a warm spell on the 13th. This was followed by severe frost and high winds, with snow on the 19th, which snow has remained. Fall work had been fairly well done before the ground froze. The month has been favourable for lumbering operations, except in the northern part of the province, where there has been too much snow to allow swamps to freeze firmly. Live stock has gone into winter quarters in at least average condition, but the very high price of hay and the good demand for turnips are responsible for the marketing of many animals in rather poor condition, and less cattle than usual are likely to be wintered."

Ste. Anne de la Pocatière, Que.—Jos. Begin, Superintendent, reports:—"The weather during November has been warmer than the average for the last few years. The highest temperature recorded during the month is 58, the lowest 21.6 and the mean is 35.1, compared with extremes of 54.5 and 8.8, and a mean of 32.2 for the corresponding period of last year. The precipitation totals 1.68 inch, made up of 0.48 of an inch of rain and 12 inches of snow. The bright sunshine recorded averages only 1.37 hour a day, compared with 2.5 hours a day for the previous November. The amount of fall ploughing done is much below the average, owing to unfavourable weather conditions and the labour shortage. It has been exceptionally cloudy and windy. Conditions during the first two weeks of the month were fairly satisfactory and the balance of the field roots were harvested in good condition throughout this section, where October was unfavourable for root pulling. Hay prices are very high, ranging from \$26 to \$30 per ton, undelivered. All mill feeds remain costly and are very difficult to get at the present time."

Cap Rouge, Que.—G. A. Langelier, Superintendent, reports:—"November has been warmer, wetter and duller than the average of the last seven years for the corresponding month, the figures being, respectively, 30.45 and 29.77 for the mean temperature, 3.50 and 3.11 inches for the precipitation, and 51.5 and 61.1 hours for the sunshine. In addition to caring for the live stock and poultry, the work at the Station during the month has included cleaning all outlets of drains, spreading ground limestone and manure, cleaning seed grain for sale and distribution, and preparing horticultural plants for winter. The snow which came at different intervals, in each instance, soon melted, being followed by rain, which then froze, putting the roads in very dangerous condition and preventing farmers from hauling hay, straw and produce to-market."

Lennoxville, Que.—J. A. McClary, Superintendent, reports:—"The weather during November has been very dull and unsettled. The first snow of the season came on the 4th, and eight inches fell on the following day. The highest temperature recorded for the month is 58°, and the lowest —4°, compared with 53 and 9, respectively, last year. The mean temperature is 32.14, compared with 32.46 in 1918. The precipitation totals 2.74 inches, while a year ago it amounted to 3.65 inches. The sunshine aggregates 52.6 hours, which is the lowest record here for any month during the past four years. The open weather that has prevailed has enabled farmers to finish up their fall ploughing fairly well. There is about the usual number of live stock being wintered in this district. Although feed (both hay and grain) is high in price, farmers realize that they must not let their live stock decrease, if at all possible to avoid it, and are saving as many good breeding animals as they can in order to keep up production in succeeding years."

Brandon, Man.—W. C. McKillican, Superintendent, reports:—"The weather during November has been the coldest, for this time of the year, since 1911—the mean temperature being 12.8, compared with 26.1 in 1919 and 33.3 for the corresponding period in 1917. The highest reading of the thermometer is 42, and the lowest —27.1, registered during the night of the 29th. The snowfall amounts to eight inches, which, added to the unusual amount recorded in October, makes the total the heaviest up to date since 1906. Roads have been in poor condition throughout the month. The farm work engaging attention in Manitoba has consisted chiefly in hauling grain and feed and caring for live stock."

Indian Head, Sask.—N. D. Mackenzie, Acting Superintendent, reports:—"November set in cold and cloudy and remained so up till the 15th, when a mild spell, which lasted until the 23rd, was experienced. The balance of the month has been clear and cold. Sufficient snow has fallen to make fairly good sleighing. Over ninety per cent of the crop has now been delivered to the elevators. At the Experimental Farm, the work engaging attention, in addition to caring for the live stock and poultry, has included hauling straw and manure, crushing feed, and attending the Regina winter fair with stock and fowl."

Rosthern, Sask.—Wm. A. Munro, Superintendent, reports:—"The weather during November has been the coldest since meteorological records have been kept at the Experimental Station, and the temperatures recorded average some twelve degrees lower than for the corresponding period from 1911 to 1918. Many cattle have been sent elsewhere, on account of the scarcity of feed, and feed has had to be imported for those retained in the district. The station has sold in Saskatoon 88 head of sheep and lambs, dressed, for 15½ and 19 cents per lb., respectively, while \$1.75 each has been realized from the pelts."

Scott, Sask.—M. J. Tinline, Superintendent, reports:—"The weather during November has been cold for this season. The highest

temperature recorded is 44.5, and the lowest —28.2. The mean temperature, 9.76 is considerably the lowest average temperature for the month on record at this Station. The hours of sunshine and the precipitation are about normal. From the 14th to the 24th, milder weather prevailed, and most of the snow that fell in October disappeared. While this has made the roads icy and teaming difficult, the feed situation has improved since the animals were able to range to better advantage. The milder weather also proved beneficial in permitting the railroads to rush in a supply of coal, giving farmers and others an opportunity to replenish in some measure their diminished stores."

Lacombe, Alberta.—B. C. Milne, Assistant to the Superintendent, reports:—"The first two weeks of November were very wintry, there being eight inches of snow in the ground and the thermometer going as low as —22.6. During the middle of the month, a ten-day spell of mild weather was experienced, when the snow melted and stock began to forage in the fields. A cold snap, at the end of the month, when a minimum temperature of —34.6 was registered, has set the record here for November since the Station was established. Just sufficient snow for good sleighing is now on the ground. Threshing in the district is almost completed. Very heavy demands have already been made on the feed supply, and it is feared that the reserve on hand in the province is very small. Good live stock is bringing satisfactory prices, but many animals of inferior quality are being sold. The scarcity of hogs has enabled the Alberta markets to stay around \$16 per hundred throughout the month."

Lethbridge, Alberta.—W. H. Fairfield, Superintendent, reports:—"The weather during November has been very much colder than usual for this season of the year, and, consequently, the difficult feed situation for live stock has been aggravated. Owing to the drought of the past season, there has been very little feed available, and, unfortunately, few of the stockmen had been able to get in their winter's supply from outside points. For about a week during the month warm chinook winds took the snow entirely off the ground and relieved the situation, but before the month was out the temperature dropped to a low point again, and fresh snowstorms have covered what little feed there was on the ground. The live stock situation, for the greater part of the southern end of the province, is, therefore, not very rosy."

Invermere, B.C.—R. G. Newton, Acting Superintendent, reports:—"November has been very cool, the mean temperature being about six degrees lower than the average for this time during the preceding five years. In the third week of the month the weather moderated somewhat, allowing farmers to complete the harvesting of potatoes and roots, and to finish fall ploughing. The frost has done considerable damage to potatoes in the district, although some very fine yields have been obtained. Cattle on the range have suffered considerably as a result of the continued cold snap, and feeding should be started at once."

Summerland, B.C.—R. H. Helmer, Superintendent, reports:—"November is repeating history. In 1911, frost came on October 18th and the mercury dropped to zero early in November; this year, the frost came on October 25th, and, in the district, very low temperatures were recorded early in the month. Many thousand boxes of apples have been made worthless, and many tons of potatoes and mangolds have been frozen. Very little fall ploughing has been done, as the land was too dry to plough before the frost. There have been good snowfalls, all this precipitation going into the ground as the frost gradually came out. At the Station, ploughing was started on the 18th, and continued up to the 25th, when the ground froze again. The Station live stock is in good condition; as is also that on the ranges, but winter feed is scarce and conditions may be changed by the time the spring grass is available. The roads in the district have been in very poor shape; the melting of the snow made them soft and now the ruts have frozen."

Agassiz, B.C.—W. H. Hicks, Superintendent, reports:—"The weather during November has been the wettest since 1909, rain falling on twenty-three days and the precipitation aggregating 15.61 inches, which is 6.55 inches more than recorded during the corresponding period of 1918. It has also been unusually cool, frost being registered on ten days. All classes of live stock have gone into winter quarters in fair condition. Feed is high in price and surplus stock is being sold. Eggs are unusually scarce and are selling for \$1 a dozen. The dry summer has resulted in a light potato crop. Potatoes being shipped locally, are selling around \$45 per ton."

Sidney, Vancouver Island, B.C.—Lionel Stevenson, Superintendent, reports:—"Much cloudy and wet weather has been experienced during November. Several sharp frosts have been recorded, and an inch of snow has fallen. In this locality, only a very small area of fall wheat has been sown and but a limited amount of fall ploughing has been done. Potato and root crops have been harvested, the yields being below the average for this section. In the district, live stock generally is in good condition, with a large percentage of the same still grazing out. Animal and poultry products are in good demand, at high prices. Matters engaging the attention of the station staff during the month have included fall ploughing and the pruning of small-fruit bushes, as well as work in connection with the cereal plots, the bulb beds, and the distribution of cuttings from ornamental and fruit-producing plants."

Meteorological Record for November, 1919.

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of November are given in the following table:—

Experimental Farm or Station at—	Degrees of Temperature F.			Pre- cipitation in inches.	Hours of Sunshine.	
	High- est.	Low- est.	Mean.		Pos- sible.	Actual.
Ottawa, Ont.....	58.0	4.4	31.30	2.71	285	49.7
Charlottetown, P.E.I.....	53.0	10.0	26.68	3.17	281	52.0
Kentville, N.S.....	60.0	15.0	37.40	7.27	287	57.3
Nappan, N.S.....	60.0	7.0	35.98	5.69	285	58.8
Fredericton, N.B.....	55.0	2.0	33.50	2.91	284	121.8
Ste. Anne de la Pocatiere, Que.....	58.0	21.6	35.10	1.68	280	41.4
Cap Rouge, Que.....	49.0	5.2	30.45	3.50	280	51.5
Lennoxville, Que.....	58.0	— 4.0	32.14	2.74	286	52.6
Brandon, Man.....	42.0	-27.1	12.80	0.80	272	109.4
Indian Head, Sask.....	44.0	24.0	11.40	1.12	270	66.8
Rosthern, Sask.....	43.3	-25.6	8.9	0.40	258	113.5
Scott, Sask.....	44.5	-28.2	9.76	0.15	261	115.3
Lacombe, Alberta.....	54.0	-34.6	14.70	1.18	263	102.1
Lethbridge, Alberta.....	61.0	13.5	22.32	1.26	273	99.1
Invermere, B.C.....	50.0	-10.0	22.30	0.24	270	49.2
Summerland, B.C.....	53.0	9.0	32.41	2.08	272	51.4
Agassiz, B.C.....	53.0	25.0	41.09	15.61	274	28.2
Sidney, Vancouver I., B.C.....	55.0	30.0	42.50	5.94	276	42.4

December 11, 1919.

E. S. ARCHIBALD,
Director Experimental Farms.

PRODUCTION OF SUGAR BEETS IN ONTARIO, 1919.

The area devoted to sugar beets in Ontario intended for the manufacture of beetroot sugar was for 1919 19,000 acres, as compared with 18,000 acres in 1918. The total yield in 1919 of sugar beets was 178,000 tons as against 195,000 tons in 1918, the yield per acre being about $9\frac{1}{4}$ tons, as compared with 10 tons last year. The average price this year is about \$12 per ton, representing a total value of \$1,780,000 as against \$10.50 a ton last year, or a total of \$2,047,000.

ONTARIO CROP REPORT.

The Ontario Department of Agriculture reports (December 22) an increase in the quantity of milk going to powdered milk factories and other condenseries. Prince Edward states that judging by the prices paid at auction sales, milch cows are increasing in value, and adds: "The demand of two local condenseries, which are planning to operate for the first time this winter, and that of local creameries, are responsible for a large number of our dairy farmers adopting winter dairying." Grenville reports that buyers from Syracuse and Liverpool, N.Y., have been purchasing both pure-bred and grade Holsteins in various parts of the county in large numbers and at fair prices, from calves to fairly aged cows, and also a few bulls. Hogs have been freely marketed. Little pigs in Brant are described as being a drag on the market at \$4 each. Fresh eggs are comparatively scarce and very dear. Simcoe county reports prices to the farmer as ranging from 65 cents to \$1 a dozen, but that dressed poultry for the holiday season are plentiful. Very little grain is moving except at auction sales. Hay is being sold at from \$20 to \$24 a ton in the older portion of the province, and at from \$25 to \$30 a ton in the northern districts.

REPORTS ON THE CONDITION OF LIVE STOCK DECEMBER, 1919.

Maritime Provinces.—The three Maritime Provinces report cattle to have gone into winter quarters in good condition. In Prince Edward Island there is sufficient fodder for the winter, with the exception of turnips. Roots are more scarce than last year. In some localities oats were rusted, and have been utilized for feed. Owing to a dry summer, fodder in New Brunswick is scarce and expensive. Hay sold at \$20 to \$22 in most districts, while \$60 was the price asked in one locality. In some instances, fodder had to be imported. With the exception of turnips, fodder is plentiful and of good quality in Nova Scotia.

Quebec.—Nearly all crop correspondents report live stock as being in good condition. In some parts, where the cattle went into winter quarters as early as November 1, a shortage of fodder is feared. Fodder is reported as sufficient in some districts, but very scarce in others. Hay is scarce and selling very high in some places. Some farmers have sold a part of their cattle, finding it more profitable to sell the hay than to feed it. Straw is very scarce.

Ontario.—Fall weather was very favourable for late pasturing and cattle remained in the open until quite late. They were stabled in good condition, although some farmers report their cattle thin. Hay and corn are both very plentiful, but grain and straw are extremely scarce, and will hardly be sufficient to carry cattle through the winter. Many farmers are forced to sell off young cattle in order to meet feed requirements. Concentrates are also very scarce and dear.

Manitoba.—In general, cattle went into winter quarters in a fairly good condition; in a few instances, cattle were thinner, owing to the flies, which were very bad, and to the poverty of the summer pastures. Most crop correspondents report a fair quantity of fodder, but as winter set in early (October 10 in some parts) and promises to be long and severe, it is feared that there will be a shortage of feed before spring.

Saskatchewan.—The majority of crop correspondents report live stock as in fairly good condition; others say they are not up to the average. There is rather general shortage of feed, especially hay. Straw is more plentiful. Russian thistles are being used as fodder. Water is scarce in some localities. Many farmers have either sold or shipped their live stock to offset the shortage of feed. If winter continues severe and long it is feared the live stock will suffer before spring.

Alberta.—The severe, cold weather is hard on live stock, which were not up to average for winter. Some farmers have sold up to two-thirds of this stock at great sacrifice, but they had to do so as feed was scarce throughout the whole province. It is feared that this will not be sufficient to last until spring. In southern Alberta a number of horses have died from the effects of bad weather.

British Columbia.—The weather has been extremely cold, which has caused a large percentage of potatoes to be frozen in the field.

Live stock are in good condition, sheep especially show good increase. Turnips turned out very good. Feed is scarce and the market price is high. Only about half of fall ploughing has been done, and the sowing of fall wheat was completed later than usual.

WOOL PRODUCTION OF CANADA, 1915-1919.

There are no definite statistics of the wool clip in Canada, except as regards wool sold through the Cooperative Associations. For the years 1915, 1916 and 1917, the wool clip was roughly estimated at 12,000,000 lb., the total values at the rate of 28 cents per lb. in 1915, 37 cents in 1916 and 59 cents in 1917, being for 1915 \$3,360,000, for 1916 \$4,440,000 and for 1917 \$7,000,000.¹

It is usually estimated that the average weight of wool per sheep is 6.5 lb. The rise in the price of wool during recent years has stimulated production, and the quantity of wool produced is now much higher than it was a few years ago. Applying the average of 6.5 lb. to the number of sheep in Canada in 1918 (3,052,748) and 1919 (3,425,958), we get 19,842,862 lb. for 1918 and 22,247,727 lb. in 1919. If we therefore assume 20 million lb. of wool to be the production for each of the last two years and take the average price per lb. at say 60 cents per lb. we get \$12,000,000 as the estimated value of the Canadian wool clip for each of the two years 1918 and 1919. The figures for the years 1915 to 1919 will therefore stand as follows:

	Production.	Average Price per lb.	Value.
	lb.	cents.	\$
1915.....	12,000,000	28	3,360,000
1916.....	12,000,000	37	4,400,000
1917.....	12,000,000	59	7,000,000
1918.....	20,000,000	60	12,000,000
1919.....	20,000,000	60	12,000,000

TOBACCO CROP OF 1919.

QUEBEC.

In Quebec statistics of the area and yield of tobacco in 1919 were jointly collected and compiled by the Quebec Bureau of Statistics and the Dominion Bureau of Statistics. The results show a great expansion in the cultivation of tobacco in Quebec, due to the large increase in selling price. The area planted to tobacco in Quebec in June last was 22,360 acres, as compared with 12,257 acres returned for 1910 by the Census of 1911. At an estimated average yield per acre of 750 lb. the total yield of tobacco in Quebec amounts to 16,770,000 lb., representing at the average rate of 40 cents per lb. a total value of \$6,708,000.

¹See Report on Census of Industry, Pt. I, Agricultural Statistics, page xiii.

ONTARIO.

The Tobacco Division of the Dominion Experimental Farms has furnished under date of November 26, 1919, the following estimate (Table I) of the acreage and yield of tobacco in Ontario for the year 1919, including the kinds of tobacco grown in each county.

I. Estimated Area and Yield of Tobacco in Ontario, 1919.

County.	Kind of Tobacco.	Area.	Yield per Acre.	Total Yield.
		acres.	lb.	lb.
Essex.....	Flue-cured.....	1,450	897	1,300,500
Essex.....	Burley.....	3,010	1,200	3,612,200
Essex.....	Havana, Gold Seal and dark types..	800	1,178	942,000
Pelee Island.....	Burley.....	700	1,279	895,400
Kent.....	Burley.....	2,700	1,189	3,210,500
Kent.....	Zimmer, Snuff, etc.....	265	1,100	291,500
Welland.....	Burley.....	8	1,250	9,000
Elgin.....	Burley.....	162	1,118	181,200
Prince Edward.....	Burley.....	24	1,042	25,000
Lincoln.....	Connecticut Havana.....	35	1,037	36,300
Brant.....	Burley.....	12	1,400	16,800
Norfolk.....	Burley.....	60	1,483	89,000
Total.....		9,226	1,150	10,609,400

The Ontario crop has been harvested without damage by frosts. This is the largest and the best crop that has been grown in Ontario since the Tobacco Division began the issue of an annual statistical crop report. In 1911 the production was larger if tradition is correct, but there are no figures available for that year. The salient fact is the large development shown by the tobacco growing industry in the county of Kent, where it seems that the growing of tobacco is rapidly extending, while the acreage in tobacco in Essex has been not only maintained but slightly enlarged. There is a tendency for a general expansion of tobacco growing in all the Ontario district including the southwestern peninsula of Ontario. The acreage devoted to the growing of flue-cured tobacco is steadily increasing though at a comparatively slow rate. Prices for that type of tobacco have been good for the last few years, but the necessity of using expert curers at harvest time does not allow of as rapid a development of the flue tobacco as of the White Burley. Prices paid for the tobacco crop in Ontario this year have been still higher than those of 1918. There was a real rush at buying time between the competing manufacturers, and the whole of the Ontario crop was purchased in less than a week. The average price paid for White Burley may be figured at about 50 cents per lb., while most of the flue-cured tobacco sold at prices ranging from 55 to 65 cents per lb. As far as money returns are concerned this is the best crop of tobacco ever produced in Ontario.

TOTALS FOR CANADA.

Placing together these results for the two provinces of Ontario and Quebec, and comparing them with the published estimates for the two previous years, we get the figures shown in Table II.

II. Area and Yield of Tobacco in Canada, 1917-1919.

Provinces.	1917.	1918.	1919.	1917.	1918.	1919.	1917.	1918.	1919.
	acres.	acres.	acres.	lb.	lb.	lb.	lb. per acre.	lb. per acre.	lb. per acre.
Quebec.....	5,000	6,903	22,360	5,000,000	7,732,000	16,770,000	1,000	1,120	750
Ontario.....	2,930	6,500	9,226	3,495,000	6,500,000	10,609,400	1,192	1,000	1,150
Total and averages	7,930	13,403	31,586	8,495,000	14,232,000	27,379,400	1,071	1,062	867

Taking the average price of tobacco in Ontario at 52 cents per lb., the total value of the crop in that province is about \$5,561,730, making the total value of the tobacco crop for the whole of Canada to be \$12,269,730.

WEIGHT OF UNITED STATES GRAIN, 1910-19.

According to the Monthly Crop Reporter of November, 1919, the estimated average weight in lb. per measured bushel of wheat, oats and barley in the United States is as follows:—

Year.	Wheat.	Oats.	Barley.	Year.	Wheat.	Oats.	Barley.
	lb.	lb.	lb.		lb.	lb.	lb.
1919.....	56.3	31.1	45.2	1914.....	58.0	31.5	46.2
1918.....	58.8	33.2	46.9	1913.....	58.7	32.1	46.5
1917.....	58.5	33.4	46.6	1912.....	58.3	33.0	46.8
1916.....	57.1	31.2	45.2	1911.....	57.8	31.1	46.0
1915.....	57.9	33.0	47.4	1910.....	58.5	32.7	46.9

The standard weight which forms the usual basis of sales transactions is for wheat 60 lb., for oats 32 lb. and for barley 48 lb.

CROP REPORTS FROM OTHER COUNTRIES.

England and Wales.—The Board of Agriculture reports (December 1) that over most of the country the weather of November was very favourable to autumn cultivation and sowing, the exception being the northeastern counties where frost and snow, followed by wet weather, seriously interfered with the work, while in Wales and a few other localities there were stoppages of longer or shorter duration. Except in the northeast, therefore, where the position is not far from normal, autumn work is considerably more advanced than usual at this time of year. The cold weather has generally caused germination of the winter grain to be slow, but where showing it is a satisfactory

plant, more especially that sown early. It is estimated that about three-fourths of the area intended for wheat has now been sown, and that the area already actually seeded is about the same as on the 1st December last year; but the season was then more backward. Of other winter grain about the same area as last year has now been sown. Potatoes have practically all been lifted under very favourable conditions; the crop is (except in the extreme southwestern counties, where disease is reported to be rather prevalent) sound, and unusually free from disease. Mangolds have nearly everywhere been clamped, though some fields here and there are reported not to have been pulled yet; there is not much mention of damage by frost. Turnips and swedes are now being generally raised wherever it is not intended to feed them on the ground. Roots generally are sound and in very good condition. Live stock, owing to the very cold weather and generally bare condition of the pastures, have only done moderately well during the month. They have been brought in from the fields, and farmers have been obliged to break into the scanty supply of winter foods, earlier than usual. Ordinary farm labour has been everywhere sufficient, and in some cases plentiful; skilled labour, however, is still mostly scarce, although complaints on this ground are beginning to be less numerous than of late.

Scotland.—The Board of Agriculture reports (December 1) that the weather during November was very variable, frost, snow and heavy rains alternating. Heavy falls of snow were practically general from the 12th to the 16th; in some parts of the southwestern districts, however, no snow fell until the end of the month. The conditions were especially severe in the northern and northeastern counties, where the greater part of the month outdoor work was greatly hindered, if it was not impossible. In some parts the snow lay for a week to the depth of 8 inches, and the thermometer registered from 2 to 3 degrees below zero. Cultivation is in arrears, and the lifting of turnips and the pitting of potatoes has been delayed.

France.—The *Journal d'Agriculture Pratique* of December 4, 1919, states that the beet-sugar campaign is now in full swing. It opened sooner than in the previous year. On November 15, 53 factories were in action as compared with 41 at the same date in 1918. The quantity of refined sugar extracted reached 1,188,000 cwt. as against 561,000 cwt. last year. The proportion of sugar extracted is better than last year, and is a good indication of the quality of beetroot.

Russia.—A report compiled by the British Economic Mission in conjunction with the British Consul at Rostoff-on-Don, and published in the "Board of Trade Journal," gives the minimum wheat export surplus from South Russia as 96,000,000 bushels, and, in addition, there are good quantities of feeding grain. According to Broomhall's *Corn Trade News* of December 9, 1919, there are indications that before very long there may be a resumption of grain exports from South Russian ports.

Argentina.—According to a cablegram received from the Canadian Trade Commissioner at Buenos Aires dated January 5, 1920, the

areas sown to wheat, flax and oats for the season of 1919-20 are as follows: Wheat 14,950,000 acres (16,976,000); flax 3,509,000 acres (3,417,000); oats 2,298,000 acres (2,980,000). The figures within brackets are those of the season 1918-19.

FIELD CROPS OF ENGLAND AND WALES, 1919.

The preliminary estimate of the production of field crops in England and Wales, as issued by the English Board of Agriculture on November 11, 1919, shows that the yield of wheat is $28\frac{3}{4}$ bushels per acre, which is $4\frac{1}{5}$ bushels less than last year, and $2\frac{2}{5}$ bushels below the average of the ten years 1909-18. The total production, from a smaller area, amounts to 63,832,000 bushels. Although this is fully 20 million bushels less than last year (the highest on record) and about 4 million bushels less than in 1915, this total is, apart from these two years, the highest since 1898 and nearly 4 million bushels above the average of the last ten years. Barley has yielded 29 bushels per acre, or $3\frac{2}{5}$ bushels less than in 1918 and nearly three bushels below average. The total production is 43,808,000 bushels or 4,800,000 bushels less than in 1918, and 2,480,000 bushels below the average; with the exception of 1915 and 1916, this is the smallest crop since official estimates were first collected in 1885. The production of oats, although nearly 24,000,000 bushels less than in 1918 (the highest on record) is, except for that year, the highest since 1907; but the yield per acre is nearly six bushels less than in 1918, and nearly 4 bushels less than the average. Mixed grains, distinguished for the first time last year, show a slightly increased total production, but the yield per acre is somewhat less. Beans have yielded $2\frac{3}{4}$ bushels to the acre less than the average and $4\frac{1}{2}$ bushels less than last year and, although the area was increased this year, the production is 280,000 bushels less. Peas yielded nearly two bushels per acre above average.

The hay crops were very light: the total production, 5,818,000 tons being the smallest since 1893 and only about three-quarters of last year's crop, and two-thirds of the average of the last ten years. Seeds' hay (clover, sainfoin, and grasses under rotation), from an area larger by about 55,000 acres, yielded nearly 370,000 tons less than in 1918, the yield per acre ($26\frac{2}{5}$ cwt.) being more than $5\frac{3}{5}$ cwt. less than in 1918 and than the average; it is the lowest since 1896. The yield per acre of meadow hay ($18\frac{2}{5}$ cwt.) is also more than $5\frac{3}{5}$ cwt. less than in 1918 and is the lowest since 1901; it is nearly $6\frac{3}{4}$ cwt. below the average.

The yield of potatoes this year amounts to 212.80 bushels per acre, which is nearly 37 bushels less than last year, and 22 bushels less than the average of the last ten years. The total production amounts to 101,995,000 bushels, which although 55,141,000 bushels less than in 1918 (by far the largest crop grown since official estimates were first collected in 1885) is only 7,093,000 bushels less than the ten year average, and is 1,867,000 bushels more than the pre-war

average. Turnips and swedes with 426 bushels per acre have yielded 67 bushels less than last year and 60 bushels less than the average. The total production, 417,760,000 bushels is 30,912,000 less bushels than last year. The yield of mangolds amounts to 597 bushels per acre, or 172 bushels less than last year, and 127 bushels below the average; this is the lowest yield since 1896. The total production, 235,947,000 bushels, is 71,344,000 bushels less than in 1918.

Cost of Milk Production in Great Britain.

The British Director of Milk Supplies issued on November 30 last the results of calculations showing the cost per gallon of the production of milk on the average farm in Great Britain during the period December 1, 1919, to April 20, 1920, omitting (a) interest on capital; (b) managerial expenses and (c) profit. The average cow in milk from December 1 to April 30 yields, he estimates, approximately $1\frac{1}{2}$ gallons daily, and there will be in the average dairy herd one dry cow to two cows in milk. He estimates, therefore, that the average cost per gallon is for each cow in milk 27.78 d. (56.8 cents), and for proportion of dry cow 6.42 d. (14.2 cents) per gallon. The total cost of milk production he therefore places at 34.20d. (68.9 cents) per gallon.

THE WEATHER DURING NOVEMBER.

The Dominion Meteorological Office reports that the temperature was from 4° to 8° below the average in British Columbia, from 5° to 12° below in the Western Provinces, and 3° to 5° below in northern Ontario, while from southern Ontario to the Maritime Provinces the mean temperature deviated very little from the normal, some few localities being 1° above, while others were 1° below the average. The precipitation exceeded the average in British Columbia by an amount varying from one to over two inches, except in the vicinity of Victoria, where there was a deficiency of half an inch. In the western Provinces the average was exceeded, except locally in Manitoba, the most noticeable departures reported were from Edmonton, Winnipeg and Qu'Appelle, and equivalent to about 30 p.c. of an excess. In Ontario the precipitation was below the average in the Peninsula generally, and above nearly everywhere else. In Quebec there was an almost general deficit, also in Prince Edward Island and Cape Breton, whereas the southwestern portion of the Maritime Provinces recorded a large excess, Yarmouth registering a positive departure of 4.50 inches. At the close of the month northern British Columbia had 10 inches of snow on the ground, and the Western Provinces were covered with an amount varying from 2 to 16 inches. Northern Ontario had from 2 to 8 inches, while elsewhere in Ontario also in Quebec and the Maritime Provinces a few traces were only locally recorded.

PRICES OF AGRICULTURAL PRODUCE, 1919.

I. Weekly Range of Cash Prices per bushel of Canadian Grain at Winnipeg and Fort William, 1919.

(Furnished by the Board of Grain Commissioners for Canada, Fort William, Ont.)

Grain and Grade.	Nov. 1.		Nov. 8.		Nov. 15.		Nov. 22.		Nov. 29.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—										
No. 1 Nor.....	2 15	—	2 15	—	2 15	—	2 15	—	2 15	—
No. 2 Nor.....	2 12	—	2 12	—	2 12	—	2 12	—	2 12	—
No. 3 Nor.....	2 08	—	2 08	—	2 08	—	2 08	—	2 08	—
No. 4.....	2 02	—	2 02	—	2 02	—	2 02	—	2 02	—
No. 4 spice 4.....	2 02	—	2 02	—	2 02	—	2 02	—	2 02	—
No. 5.....	1 91	—	1 91	—	1 91	—	1 91	—	1 91	—
No. 6.....	1 81	—	1 81	—	1 81	—	1 81	—	1 81	—
Feed.....	1 71	—	1 71	—	1 71	—	1 71	—	1 71	—
Oats—										
No. 2 C.W.....	0 82½	—0 85	0 84½	—0 87½	0 85½	—0 87	0 86	—0 87	0 86	—0 88½
No. 3 C.W.....	0 79½	—0 82½	0 82½	—0 84½	0 83½	—0 85½	0 84	—0 84½	0 84	—0 86½
No. 1 Feed ex.....	0 79½	—0 83½	0 83½	—0 85½	0 85	—0 85½	0 84	—0 84½	0 84½	—0 86½
No. 1 Feed.....	0 77½	—0 81	0 81½	—0 82½	0 81½	—0 82½	0 81½	—0 82½	0 81	—0 83½
No. 2 Feed.....	0 74½	—0 78½	0 77½	—0 80½	0 79½	—0 81	0 79½	—0 80½	0 80	—0 81½
Barley—										
No. 3 C.W.....	1 40	—1 47½	1 43½	—1 52	1 47½	—1 52½	1 50½	—1 52	1 48½	—1 55
No. 4 C.W.....	1 34½	—1 42½	1 38½	—1 47	1 45	—1 47½	1 42½	—1 44½	1 31	—1 42½
Rejected.....	1 20½	—1 29½	1 27½	—1 33½	1 32	—1 35½	1 33½	—1 34½	1 26½	—1 35½
Feed.....	1 20½	—1 29	1 27½	—1 33½	1 32½	—1 35½	1 33½	—1 34½	1 26½	—1 35½
Flax—										
No. 1 N.W.C.....	4 23	—4 32	4 38	—4 85	4 81	—4 95	4 79	—5 06	4 96	—5 00
No. 2 C.W.....	4 15	—4 28	4 33	—4 79	4 77	—4 91	4 75	—5 02	4 77½	—4 96
No. 3 C.W.....	3 88	—4 02	3 91½	—4 27	4 31	—4 40	4 34	—4 75	4 56½	—4 65

II. Monthly Range of Prices per bushel of Grain at Selected Markets in the United States, 1919.

(From the Monthly Crop Report of the United States Department of Agriculture.)

Grade and Market.	August.		September.		October.		November.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat, Red Winter, No. 2—								
St. Louis.....	2 21	—2 24½	2 21	—2 25	2 21	—2 29	2 24	—2 41
Chicago.....	2 23	—2 27½	2 23	—2 27	2 23	—2 27½	2 24	—2 37½
New York (f.o.b. afloat).....	2 38	—	2 38	—	2 38	—	2 38	—
Corn, No. 2, mixed—								
St. Louis.....	1 88	—2 00	2 21	—2 47	1 39	—1 49	1 44	—1 64
Corn No. 2—								
Chicago.....	1 83	—2 10	1 33	—1 83	1 37	—1 53	1 37	—1 66
Oats, No. 2—								
St. Louis.....	0 67½	—0 76½	0 64	—0 71	0 67	—0 72	0 70	—0 77
Chicago.....	0 70½	—0 80½	0 65½	—0 74½	0 70½	—0 74½	0 71½	—0 80
Rye No. 2—								
Chicago.....	1 44½	—1 66½	1 43	—	1 32½	—1 42½	1 33½	—1 50½

III. Prices of Imported Grain and Flour at British Markets, 1919.

(Mark Lane.)

Description.	Nov. 3.		Nov. 10.		Nov. 17.		Nov. 24.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Wheat—								
Canadian No. 1.....	2 29½	—	2 29½	—	2 29½	—	2 29½	—
“ No. 2.....	2 26½	—	2 26½	—	2 26½	—	2 26½	—
American spring.....	2 26½	—	2 26½	—	2 26½	—	2 26½	—
“ hard winter.....	2 29½	—	2 29½	—	2 29½	—	2 29½	—
“ red winter.....	2 23½	—	2 23½	—	2 23½	—	2 23½	—
Durum.....	2 23½	—	2 23½	—	2 23½	—	2 23½	—
Australian.....	2 32½	—	2 32½	—	2 32½	—	2 32½	—
Argentine.....	2 26½	—	2 26½	—	2 26½	—	2 26½	—
Oats—								
Canadian.....	1 47½—1 50		1 39½—1 42½		1 39½—1 55½		1 44½—1 60½	
American.....	1 39½—1 44½		1 29½—1 37		1 37—1 39½		1 42½—1 44½	
Chilian.....	1 52½—1 55½		1 44½—1 47½		1 55½—1 57½		1 55½—1 57½	
Argentine.....	1 47½—1 50		1 42½—1 44½		1 39½—1 42½		1 47½—1 50	
Flour—								
Canadian spring.....	11 25	—	11 25	—	11 25	—	11 25	—
American spring.....	11 25	—	11 25	—	11 25	—	11 25	—
“ winter.....	11 25	—	11 25	—	11 25	—	11 25	—
Australian.....	11 25	—	11 25	—	11 25	—	11 25	—

LIVERPOOL.

Wheat—							
Nor. Man. No. 1.....	1 92½	—	1 92½	—	1 92½	—	1 92½
Red Winter No. 1.....	1 89½	—	1 89½	—	1 89½	—	1 89½
Hard Winter No. 1.....	1 92½	—	1 92½	—	1 92½	—	1 92½
Australian.....	1 94½	—	1 94½	—	1 94½	—	1 94½

IV. Average Prices of British-grown Grain, 1919.

(From the “London Gazette” as published pursuant to s. 8 of the Corn Returns Act, 1882.)

Week ended	Wheat.		Barley.		Oats.	
	Per quarter.	Per bushel.	Per quarter.	Per bushel.	Per quarter.	Per bushel.
	s. d.	\$	s. d.	\$	s. d.	\$
November 1.....	72 9	2.212	96 0	2.803	56 4	1.493
“ 8.....	72 8	2.210	97 10	2.857	55 3	1.464
“ 15.....	72 7	2.208	100 7	2.937	55 7	1.473
“ 22.....	72 7	2.208	104 11	3.063	55 11	1.482
“ 29.....	72 7	2.208	107 9	3.146	56 0	1.484
Average.....	72 8	2.209	101 5	2.961	55 10	1.479

PUBLICATIONS
OF THE
Department of Trade and Commerce

ANNUAL REPORT OF THE DEPUTY MINISTER.

MAIL SUBSIDIES AND STEAMSHIP SUBVENTIONS (Annual).

BOARD OF GRAIN COMMISSIONERS FOR CANADA (Annual).

RULES AND REGULATIONS OF THE BOARD OF GRAIN COMMISSIONERS (Annual).

LIST OF LICENSED ELEVATORS, ETC.

GRAIN INSPECTION IN CANADA, (1914).

WEEKLY BULLETIN, containing Reports of Trade Commissioners and other Commercial Information.

PATENT OFFICE RECORD (WEEKLY).

RULES AND FORMS OF THE CANADIAN PATENT OFFICE.

CANADA AND THE BRITISH WEST INDIES (1915).

CANADA THE COUNTRY OF THE TWENTIETH CENTURY (1915) 75c., \$1.00.

HANDBOOK FOR EXPORT TO SOUTH AMERICA (1915).

TRADE WITH CHINA AND JAPAN (1914).

REVIEW OF COMMERCIAL INTELLIGENCE SERVICE (1916).

RUSSIAN TRADE (1916).

DIRECTORY OF RUSSIAN IMPORTERS (1915).

THE GERMAN WAR AND ITS RELATION TO CANADIAN TRADE (1914).

TOY MAKING IN CANADA (1916).

THE TIMBER IMPORT TRADE OF AUSTRALIA (1917).

FOOD INSPECTION BULLETINS.

TRIAL SHIPMENT OF WHEAT, from Vancouver via the Panama Canal to the United Kingdom.

GAS AND ELECTRICITY (Annual).

WEIGHTS AND MEASURES (Annual).

For List of Publications of the Dominion Bureau of Statistics, see page iv of cover.

PUBLICATIONS

OF THE

DOMINION BUREAU OF STATISTICS.

THE CANADA YEAR BOOK, 1918, with Map of Canada and Newfoundland, a Statistical Summary of the Progress of Canada, Frontispiece and numerous other illustrations. (Jubilee Volume). pp. 1-xvii, 1-686.

Contents: I The Story of Confederation, by Sir JOSEPH POPE, K.C.M.G., C.V.O. I.S.O., Under Secretary of State for External Affairs, Ottawa, with 2 illustrations; II Chronological History of Canada, 1497-1918; III Fifty years of Canadian Progress, 1867 to 1917, by ERNEST H. GODFREY, F.S.S., Editor, Dominion Bureau of Statistics, Ottawa; IV Physical Characteristics of Canada, including Geographical Features; Economic Geology in Canada, 1918, by WYATT MALCOLM, Department of Mines, Ottawa; V Area and Population; VI Education; VII Climate and Meteorology, including The Climate of Canada since Confederation, by Sir FREDERIC STUPART, Director, Dominion Meteorological Service, Toronto; VIII Production; IX Trade and Commerce; X Transportation and Communications; XI Labour; XII Finance; XIII Administration; XIV Legislation in 1917 and 1918 and Principal Events of the Year 1918; XV Extracts from the Canada Gazette, 1917 and 1918.

THE CANADA YEAR BOOK. Second Series 1905-1917. [1910, 1913 and 1916-17, out of print.]

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. Nos. 1 to XIX.

REPORT OF THE FIFTH CENSUS OF CANADA, 1911.

Vol. I, 1912. Areas and Population by Provinces, Districts and Subdistricts with introduction, Tables I to XV, pp. i-viii, 1-623. [Out of print.]

Vol. II, 1913. Religions, Origins, Birthplace, Citizenship, Literacy and Infirmitates by Provinces, Districts and Subdistricts, with Introduction. Tables I-XLVI, pp. i-iv, 1-634.

Vol. III, 1913. Manufactures for 1910 as enumerated in June 1911, with Introduction. Table I-XX, pp. i-xvi, 1-432. [Out of print.]

Vol. IV, 1914. Agriculture, with Introduction. Tables 1-40; I-XXXV, pp. i-xv, 1-428. Diagrams, 5 pp. [Out of print.]

Vol. V, 1915. Forest, Fishery, Fur and Mineral Production, with Introduction. Tables 1-51; I-XXVI, pp. i-l, 1-171.

Vol. VI, 1916. Occupations of the People, with Introduction. Tables 1-25; I-VI, i-xxxi, 1-469. [Out of print.]

REPORT OF THE CENSUS OF POPULATION AND AGRICULTURE OF THE PRAIRIE PROVINCES, 1916. January 12, 1918. Tables 1-54; I-XXVI, pp. i-lxiv, 1-356.

SPECIAL REPORT ON THE FOREIGN-BORN POPULATION. Abstracted from the Records of the Fifth Census of Canada, June 1911. 23 tables. 62 pp. 1915.

REPORT OF THE POSTAL CENSUS OF MANUFACTURES, 1916. pp. i-xi; 1-263, 1917.

REPORT ON THE CENSUS OF INDUSTRY, 1917. Part I. (AGRICULTURAL STATISTICS); Part II (DAIRY FACTORIES); Part III. (FISHERY STATISTICS); Part IV, Section 4 (PULP AND PAPER). Other Parts in preparation.

DIRECTORY OF THE CHEMICAL INDUSTRIES IN CANADA, as of date January 1, 1919. 68 pp. 1919.

EXTERNAL TRADE: ANNUAL REPORT OF THE TRADE OF CANADA; MONTHLY REPORT OF THE TRADE OF CANADA.

INTERNAL TRADE: ANNUAL REPORT ON THE GRAIN TRADE OF CANADA; ANNUAL REPORT ON THE COAL TRADE OF CANADA; MONTHLY PRODUCE BULLETINS, showing stocks in warehouse, in transit, etc.

CRIMINAL STATISTICS. Annual Report for Year ended September 30, 1917. pp. i-ii, 1-270.

CENSUS AND STATISTICS MONTHLY, Vols. 1-10, 1908-1916; Vol. 10, Nos. 101-103, 1917
MONTHLY BULLETIN OF AGRICULTURAL STATISTICS, Vols. 10 to 12, Nos. 104-135, 1917-19.

REPORT OF CONFERENCE ON VITAL STATISTICS, June 19-20, 1918, pp. 1-48, 1918.

THE BEET SUGAR INDUSTRY, Bulletin IX, with 3 illustrations, pp. 1-75, 1909.

For list of Publications of the Department of Trade and Commerce, see page iii of cover.

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